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Repair Cafe II

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WPI

Repair Café II

University-based Repair Cafés

An Interactive Qualifying Project
submitted to the Faculty of
WORCESTER POLYTECHNIC INSTITUTE
in partial fulfillment of requirements for the
degree of Bachelor of Science

by
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May 3, 2016

Report Submitted to:

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Abstract

Consumption, waste generation and resource depletion are significant issues concerning the world today. In response to these problems, the Repair Cafe Foundation was created in order to encourage people to fix their broken items instead of throwing them away. This project determined the desirability and feasibility of hosting repair cafés on university campuses by identifying what makes existing repair cafes successful and soliciting opinions of students and staff at our model university, the University of Worcester. With the help of Katy Boom, our sponsor and Director of Sustainability at the University, we developed recommendations to the University of Worcester as well as any others interested in hosting a repair cafe on campus.

Acknowledgements

The Repair Café II Team would like to express our gratitude to the individuals and organizations who helped and supported us along the way of our project to make it possible.

Our Sponsor

The University of Worcester

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For their help in giving us advice on how to setup and run a repair café

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Executive Summary

Concerns about excessive consumption, waste generation, and resource depletion are rising in the United Kingdom and across the world. Many European countries are running out of space for landfills and public opposition to incinerators is growing. In response, many countries have developed various programs and policy to minimize waste generation by encourage materials reduction, reuse and recycling. In a similar vein, the Repair Café Foundation was created in order to encourage people to fix their broken items instead of throwing them away. A repair café is an event where attendees can bring old or damaged belongings to be potentially fixed by volunteer specialists for free. In addition to fixing the item, the specialists explain the fixing process, one-on-one, to the owners so that they can hopefully repair it themselves in the future.

Repair cafés are not a foreign concept to universities. A few universities across the globe, such as the University of Essex and Universiteit Utrecht in the Netherlands, have held on-campus repair cafés. However, these were mostly student projects and afterwards the repair cafés evolved from university-hosted to community-based repair cafés. The University of Worcester has been keen to develop a repair café on campus as part of its ongoing sustainability efforts and held a pilot café in February 2015. Building on that effort, the goal of our project was to evaluate the feasibility and desirability of universities more generally hosting repair cafés by using the University of Worcester as a model. To achieve our overall goal, we (1) identified the lessons learned from the implementation of repair cafés in various other locations; (2) solicited the opinions of staff, students, and other stakeholders regarding the desirability, feasibility, and operational aspects of repair cafés on the University of Worcester campus, (3) executed and evaluated a repair café on the University of Worcester campus, and (4) developed recommendations for the University of Worcester as well as other universities for implementing university-based repair cafés.

For the first objective, we conducted in-depth, semi-structured interviews with the directors of various repair cafés. We observed the operations of a repair café and took notes on how effectively the space of the repair café was used, what kind of repair stations were set up, and the interactions between the repairer and customer.

Our second objective involved conducting a series of in-depth interviews and questionnaire surveys at the University of Worcester. We interviewed staff and other stakeholders on operational aspects and liability policies at the University. We collected responses with a student survey and a staff survey using a mix of closed and open-ended questions based on our literature review and interview data.

Based on our previous findings, for the third objective, we hosted a trial repair café on the University of Worcester campus. We evaluated the successes and failures by having volunteers give us feedback and customers fill out a trial attendee comment cards.

Finally, using the data we collected from our interviews, observations, surveys, and trial repair café, for our fourth objective, we developed recommendations for the University of Worcester moving forward with hosting repair cafés on their campus. These recommendations were also a guide for any other university that desires to run on-campus repair cafés.

Conclusions and Major Recommendations

I. Conclusions

- Repair cafes are increasingly popular throughout Europe and are beginning to proliferate in the UK, including several recent new startups in Worcestershire. Since we began our project on January 14, 2016, a total of 103 repair cafés have been newly established, showing the momentum of the repair café movement.
- Several repair cafés have been established on university campuses including: University of Essex, Universiteit Utrecht, and Universität Bremen. However, these tend to migrate more to community-based cafes over time. All of these repair cafés are open to the public, and their volunteers mostly comprise of skilled and experienced members of the community. Also, directors have found that it is often more difficult to motivate younger generations in developing a mindset to repair.
- The University of Worcester would like to implement a repair café on campus by using exclusively student and staff volunteers as a way to change attitudes and awareness and further develop the culture of sustainability on campus. The plan is to make this repair café solely available to the on-campus community.

- The University of Worcester is tentative about and presently opposed to the repair of electrical and electronic items at a repair café on campus because of concerns about the qualifications and certifications of staff and student repairers and potential liability.
- Recruiting skilled and willing volunteers and attracting large numbers of patrons from among students and staff remains a perplexing problem on the UW campus. The previous trial repair café conducted in Green Week (February 8-12, 2016) attracted only 15 patrons and our trial repair café on April 20 attracted 10 patrons with 16 items for repair in spite of a more extensive outreach effort. A major difficulty lies in changing the culture of the younger generation. At our trial repair café, of the 10 patrons, only one person was a university student. Another reason is the lack of an on-campus activities notification system where students can receive emails with weekly and daily news.
- Other repair cafés in communities and on university campuses have found that electrical and electronic items are the most common items people bring in for repair. They have dealt with the issue of liability in various ways by having skilled repairers from the outside community and requiring customers to read house rules and sign disclaimers. These universities have not found liability to be an impediment and surprisingly perhaps, given the litigation nature of the United States, Jon Bartelson, Compliance Officer at WPI, indicated that he did not think liability would be an impediment in the US.

II. Recommendations for the University of Worcester

- The University of Worcester should continue to pursue the idea of developing an on campus repair café using university staff and students as volunteers, but should this not work out, the University should consider various models of cooperation with the nascent Worcester Repair Café, including the use of community volunteers and offering the campus as a venue for community repair cafés.
- The University of Worcester should explore ways to offer repairs on electrical and electronic items. From our discussion with the University of Worcester's insurance officer, we were informed this would be possible if the insurance policy was extended and electronic repairs were carried out qualified professionals.

- We recommend the University of Worcester host any future repair cafés once a month on the St. John's Campus in the Students' Union, more specifically the Pear Tree as this is most popular location identified by the students and staff we surveyed.
- We recommend the University of Worcester host any future repair cafés for 4 hours rather than the previous 2-hour sessions, if possible. Making the repair cafe longer would make it more convenient for students to bring in their items in between their usual daily activities.
- We propose the University of Worcester adopt a daily email news system for the student body in order to inform them of activities happening on campus. Even though most of the students have social media accounts, such as Facebook, very few knew about the on-campus events posted by the University on social media accounts.
- We recommend that the University create an environmental club that would plan events such as the repair café. They can find a staff as a facilitator and also utilize the Student Union's Sustainability Officer to ensure that the club remains sustainable. It will attract passionate students that have an interest in saving the environment and inspiring other students. We believe that an environmental club is one step toward changing the culture of the students at the University.

III. Recommendations for universities in general

- We recommend to universities that wish to host repair cafés on their campuses to use our survey results and findings to prepare and maintain their repair cafés. We also believe it would be useful to conduct independent surveys (using ours as guidelines) to determine preferences specific to the university's population. It is important to consider how many people are interested, where and when the event should be held, how often, and what kind of repairs would be most sought after.
- We determined that the best location to host a repair café on a university campus is in high traffic areas and recommend other universities hold repair cafés in a similar setting. This is so that students and staff do not have to go out of their way to find and use the repair café service.
- We suggest that universities utilize social media and emails to advertise their events, but posters and handouts can also be helpful to reinforce the message that the event will be

happening. Any way that the university currently announces events that are happening on campus should be utilized by the directors of the repair café.

- We anticipate that electrical items will most likely be brought in to any repair café so we suggest checking the university's current liability and insurance policies as it is important. Otherwise, it could limit the repair café from offering electrical repairs, and thus, deter the number of people that attend. We suggest working with the health and safety coordinators to update any of these policies as needed.
- Because of potential liability concerns, we recommend finding qualified volunteers as repairers by sourcing them from the local community and/or university. This would also enhance the social aspect of the repair café and get students more involved with the community and vice versa. Students and staff can also learn a lot from skilled repairers from the community.
- We suggest that universities contact and coordinate with community groups and/or previously established successful repair cafés. This has proven to have led to the growth of university-based repair cafés and also the overall sustainability of individual communities. For example, the Universität Bremen has become part of a successful network of German repair cafés.

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Chapter 1: Introduction

A global network of repair cafés has developed in response to growing concerns about consumption, waste generation, and resource depletion. Today, there are 1035 repair cafés worldwide with 23 located in the UK alone. The repair café movement challenges the trend toward premature disposal of consumer products by encouraging and teaching people to repair typical household items such as broken toasters and small furniture, electronic devices, and textiles rather than throwing them away. By fostering the repair and the reuse of products, the repair café movement hopes to reduce the amount of waste going to landfill or incinerators, reduce resource consumption, and build a sense of community.

The University of Worcester is interested in hosting recurring repair café sessions on their campus to complement their ongoing sustainability efforts and encourage students to fix their broken possessions rather than simply disposing of them. Meanwhile, other repair cafés are developing in Worcestershire. For example, the City of Worcester is planning for its first community repair café in May 2016 and a repair café in Malvern Hills has been thriving for over three years.

The goal of this project was to evaluate the feasibility and desirability of universities hosting repair cafés using the University of Worcester as a model. We collected a wide range of data by (1) identifying the lessons learned from the implementation of repair cafés in various locations by interviewing repair café staff, volunteers, and advocates, (2) soliciting the opinions of staff, students, and other stakeholders at the University of Worcester campus using a mix of in-person interviews and online surveys, (3) executing and evaluating a repair café on the University of Worcester campus, and (4) developing recommendations for the University of Worcester going forward as well as other universities using the University of Worcester as a model.

Chapter 2: Literature Review

I. Waste Generation in the UK

Over the past five decades consumption and waste generation have grown dramatically and go hand-in-hand with economic growth in both the developed and developing countries (Assadourian, 2010). Between 1950 and 2005, annual resource extraction worldwide increased by about 50 percent and reached 60 billion tons annually. In 2010, the average European used 43 kilograms of resources per day. In 2006, “people around the world spent \$30.5 trillion on goods and services” (Assadourian, 2010). The extraction and usage of all of these resources have put a massive strain on earth's ecosystem. The Ecological Footprint Indicator has calculated that humans use the resources of 1.3 worlds or 30% more than our earth can sustain.

Massive materials consumption and waste generation is a major problem in the UK. If everyone consumed at the same rate as the UK does, it would require the equivalent of three planet's worth of resources to be sustainable (WWF, n.d.). For example, in 2012, over 460 million metric tonnes of resources were extracted in the UK (Defra, 2015 including 165 million metric tonnes of biomass, 196 tonnes of non-metallic minerals, and 100 million tonnes of fossil energy materials and carriers (Defra, 2015). In addition, 747 million metric tonnes of materials were extracted elsewhere and imported for use in the UK economy. As seen in Figure 1, 407 million metric tonnes of domestic materials were consumed (extracted + imported) and 485 million metric tonnes of raw materials were consumed, which consists of any unprocessed material that is used to produce goods (Defra, 2015). These statistics put into perspective the vast amount of resources being consumed by a single sovereign state in the European Union.

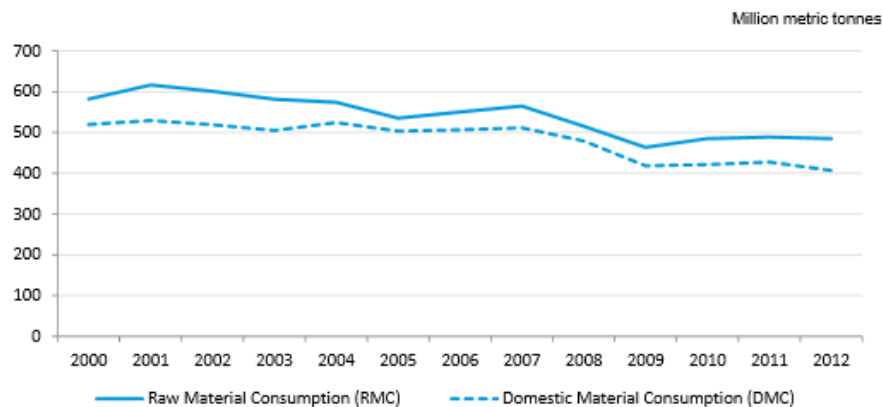


Figure 1: UK Raw Material Consumption and Domestic Material Consumption 2000-2012 (Defra, 2015)

All of these materials being converted into goods and consumed produces massive amounts of waste. In 2012, the UK generated 200 million tonnes of total waste (Defra & GSS, 2015). Fifty percent of this waste was generated in the construction sector, twenty five percent was generated by commerce and industry, and fourteen percent was generated by households (Defra & GSS, 2015). That amount of waste generation is almost half of the amount of resources the UK extracts and a little more than one third of the domestic materials consumed. The amount of waste generated during the manufacture of computer, electrical equipment and machinery was 732 thousand tonnes and the manufacture of textiles, apparel and furniture resulted in 1 million tonnes of waste (Defra, 2015). At the same time, 529,000 metric tonnes of electronics and 667,000 metric tonnes of textiles, apparel and furniture are thrown away by consumers (Defra, 2015). Waste production needs to be reduced, in order to minimize direct and indirect environmental harm (Defra, 2013).

II. Waste Disposal in the UK

Environmentally safe and cost effective disposal of waste is becoming an increasingly difficult problem in many countries, including the UK. Presently, the UK uses the following methods in order to dispose of their waste: energy recovery, incineration, recovery other than energy recovery and landfills (Defra & GSS, 2015). Currently, there are 27 energy recovery facilities, 87 incineration facilities, 3,542 other recovery facilities and 594 landfills for a combined number of 4,250 waste disposal facilities (Defra & GSS, 2015).

Out of the four types of waste disposal facilities mentioned above, incineration and landfills are among the worst for the environment. Annually about 6 million tonnes of waste go to incinerators and about 49 million tonnes of waste go into landfills (Defra & GSS, 2015). The emissions from these waste incinerators consist of “fine particulates, of toxic metals and of more than 200 organic chemicals, including known carcinogens, mutagens, and hormone disrupters” (Thompson & Anthony, 2008). Due to all of these fine particulates and the toxic exhaust, some studies have concluded that people are more likely to develop cancer and children are more likely to be born with birth defects if they live around these municipal incinerators (Thompson & Anthony, 2008). Also, incinerators only reduce the waste volume by 30-50%, and the remaining ash has to be transported to a landfill (Thompson & Anthony, 2008).

Landfills are the other widely used method of waste disposal in the UK. The UK currently has three classes of landfills: landfills for inert waste, landfills for non-hazardous waste, and landfills for hazardous waste (Health Protection Agency, 2011). Unfortunately, landfills are associated with a variety of noxious emissions that may harm human health and the environment, including various gases generated as the waste breaks down, leachate (toxic liquids that leach into the ground), and any discharges that occur when trying to treat the leachate (Health Protection Agency, 2011). Landfills emit a lot of methane gas (about 65% by volume) as well as a lot of carbon dioxide (about 35% by volume) which are potent greenhouse gases and may be harmful to health in high concentrations (Health Protection Agency, 2011). Toxic leachate is another large problem with landfills. The biggest issue arises when leachate seeps into the ground and contaminates groundwater. Not only do landfills pose potential health and environmental impacts, but the UK is rapidly running out of landfill capacity and has few sites suitable for the construction of new landfills (Grice, 2010). It is expected that in a few years, the UK will run out of landfill sites and while incineration remains an option, public opposition to incineration has been intense and growing (Grice, 2010).

III. Waste Reduction, Reuse, and Recycling in the UK

With the massive amounts of waste being produced and non-environmentally friendly methods of disposing of this waste being dominant, the UK established a waste hierarchy to “[rank] waste management options according to what is best for the environment” (Defra, 2011). As seen in Figure 2, the hierarchy comprises 5 stages: prevention, preparing for re-use, recycling, other recovery and disposal (Defra, 2011). The prevention stage consists of reducing material use in design and manufacture, using products for longer as well as reusing them and cutting down on hazardous material use (Defra, 2011). The preparing for re-use stage consists of repairing and refurbishing complete items or spare parts (Defra, 2011). The recycling stage consists of repurposing waste into new products or substances (Defra, 2011). This part also includes composing, but only if it meets standards (Defra, 2011). The other recovery stage consists of methods of disposal such as incineration (with energy recovery), gasification (to produce fuels, heat and power) as well as backfilling (Defra, 2011). The final part disposal consists of disposing the waste in a landfill or incinerating it without means of energy recovery (Defra, 2011).

The items at the top of the hierarchy are more environmentally friendly and should be given priority (Defra, 2011). If a business or public body produces waste, then it is their duty “to take all such measures as are reasonable in the circumstances to apply the waste hierarchy to prevent waste, and to apply the hierarchy as a priority order when you transfer your waste to another person” (Defra, 2011). Facing this waste problem, the UK, like many other European nations, has been promoting efforts to reduce the volumes of waste produced.

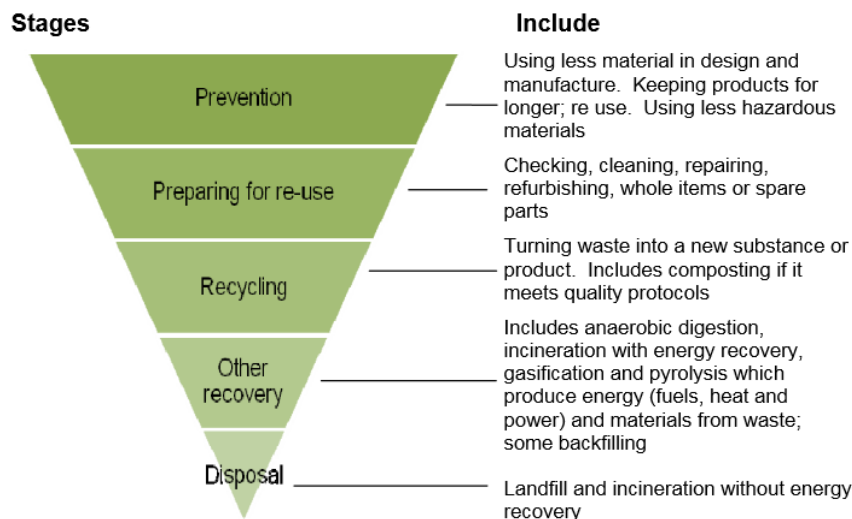


Figure 2: UK Waste Hierarchy Stages (Defra, 2011)

United Kingdom is attempting a transition towards a “zero-waste economy” (Cole, 2014). This transition will follow along the “EU Waste Framework Directive”, which details legislative framework for the collection, transport, recovery and disposal of waste (Government UK, 2013). The waste removal and disposal process requires a permit from EU legislation and focuses on preventing harm to the environment and human health. One major and growing segment of the waste stream is electrical equipment. Waste electrical and electronic equipment (WEEE) poses a particular problem: not only does WEEE make up an increasing share of the waste stream, but it contains many valuable resources, such as rare metals, that are lost if articles are not recycled and many other materials, such as mercury, that may be hazardous if disposed of in a landfill or by incineration.

With the upsurge of waste electrical and electronic equipment (WEEE) across the globe, especially in a developed country such as the United Kingdom, policies and mandates are in place to address this issue. In Europe there are three main directives: the restriction of the use of certain hazardous substances in EEE (RoHS directive), the energy using products directive (EuP

directive), and the WEEE Directive. These directives were created in the early 2000's with the rise of portable electronic devices such as phones and laptops (Ongondo, 2011).

Each policy acknowledges a different aspect of WEEE. The RoHS directive prohibits placing EEE products on the EU market which contain more than the legal level of a hazardous material, like lead or mercury (Goosey, 2004). This reduces the environmental impact of later disposed EEE products. The EuP directive “establishes a framework for the setting of EU eco-design requirements for energy-using products with the aim of ensuring the free movement of those products within the internal EU market,” which “contributes to sustainable development by increasing energy efficiency and the level of protection of the environment” (European Union, 2005). Finally the WEEE directive

“requires manufacturers and importers in the EU member states (MS) to take back their products from consumers and ensure that they are disposed of using environmentally sound methods....aims to prevent the generation of WEEE....aims to promote reuse, recycling and other forms of recovery of WEEE so as to reduce the disposal of waste” (Widmer et al., 2005).

The United Kingdom enacted the EU WEEE directive in January 2007 (Environmental Agency, 2010). However, the full effect of the directive did not take place until July 2007. The regulations required producers to join a producer compliance scheme, finance the treatment, recovery, recycling, and environmentally friendly disposal of WEEE (Watson & Crowhurst, 2007). In addition, they must provide feedback about environmental aspects of disposal and free removal of all WEEE (Watson & Crowhurst, 2007). The Environmental Agency (EA) enforces these regulations throughout England and Wales (Environmental Agency, 2010).

As problems in consumption, waste generation, and resource depletion increase, the UK and many other countries worldwide have put in directives like WEEE and waste hierarchies. In addition, businesses and foundations are implementing social or environmental missions that are focused on sustainability and changing the community culture on waste generation and disposal. One specific organization that has developed is the Repair Café Foundation, where their mission is to encourage repairing and upcycling.

IV. Repair Cafés

Old belongings such as appliances and electronics are often thrown away before they reach the end of their useful life or when they break. In order to create a more “circular” economy, which puts emphasis on efficiency of materials and extending product life, large businesses and, more importantly, civil society needs to have a desire to increase product longevity (Charter & Keiller, 2014). “The linear industrial processes of ‘take, make, dispose’ that have driven economic growth and shaped lifestyles in the developed world are not sustainable” (Charter & Keiller, 2014). As a result, people are beginning to take notice of this often overlooked problem. Organizations have been founded to promote the “reduce, reuse, recycle” mentality by creating policies and programs that encourage solutions such as repairing broken possessions. Founded in 2003 by two California Polytechnic State University students, iFixit “is a wiki-based site that teaches people how to fix almost anything” with 18,915 free manuals and 72,502 solutions (iFixit, n.d.b). The website gives people the opportunity to join a global repair community and help each other fix their things (iFixit, n.d.a). Over half a decade later, a foundation with a similar “fixit” mission began in Europe.

The Repair Café Foundation aims to spread motivation toward a fixer economy by showing people unique ways of reducing, reusing, and recycling (Charter & Keiller, 2014). A repair café is based on a concept of a “pop-up shop” where individuals cannot only have their broken possessions repaired by knowledgeable volunteers, but also learn how to repair them on their own. In a relaxed “café-like” setting, specialists will fix items such as clothes, furniture, bicycles, and electronics. Martine Postma held the first repair café in Amsterdam in October 2009. In seven years, the Foundation has now grown to 1035 active repair cafés worldwide with 23 located in the UK (“Visit a Repair Café”, n.d.). Men and women alike participate to enhance their handiness and to meet new people. Repair cafés are referred to as “free meeting places and

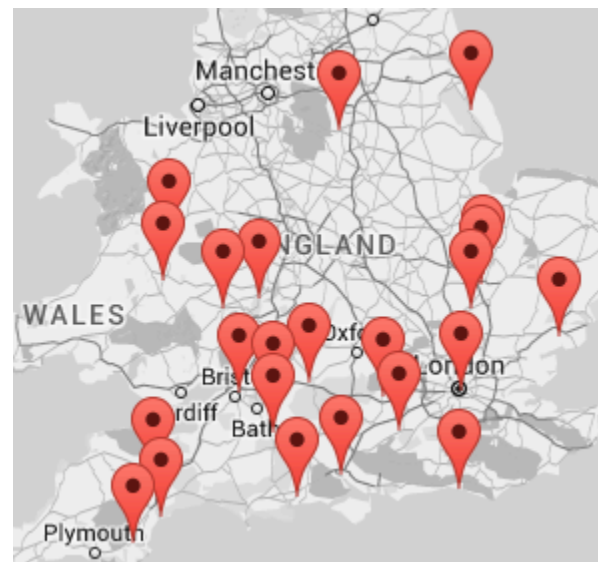


Figure 3: Map of all UK repair cafés (“Visit a Repair Café, n.d.)

they're all about repairing things (together). If you have nothing to repair, you can enjoy a cup of tea or coffee. Or you can lend a hand with someone else's repair job" (König, 2013). Repair cafés are guiding individuals in learning new valuable skills that can be passed down for generations (König, 2013).

In a survey of 144 respondents from repair cafés in nine different countries, 35% of respondents were between the ages of 55-65 and 21% were over age 65. "The time commitment, effort and resources required to set-up and organise a Repair Café are significant. This might explain why the age profile of respondents is skewed towards relatively 'time-rich' older generations" (Charter & Keiller, 2014). When asked why they choose to participate in a repair café, the most popular responses were: "to encourage others to live more sustainably, to provide a valuable service to the community, and to be part of the movement to improve product reparability and longevity." Many locations have various specialists that know how to mend different items. The items most frequently brought for repair to cafés can be seen in Figure 4.

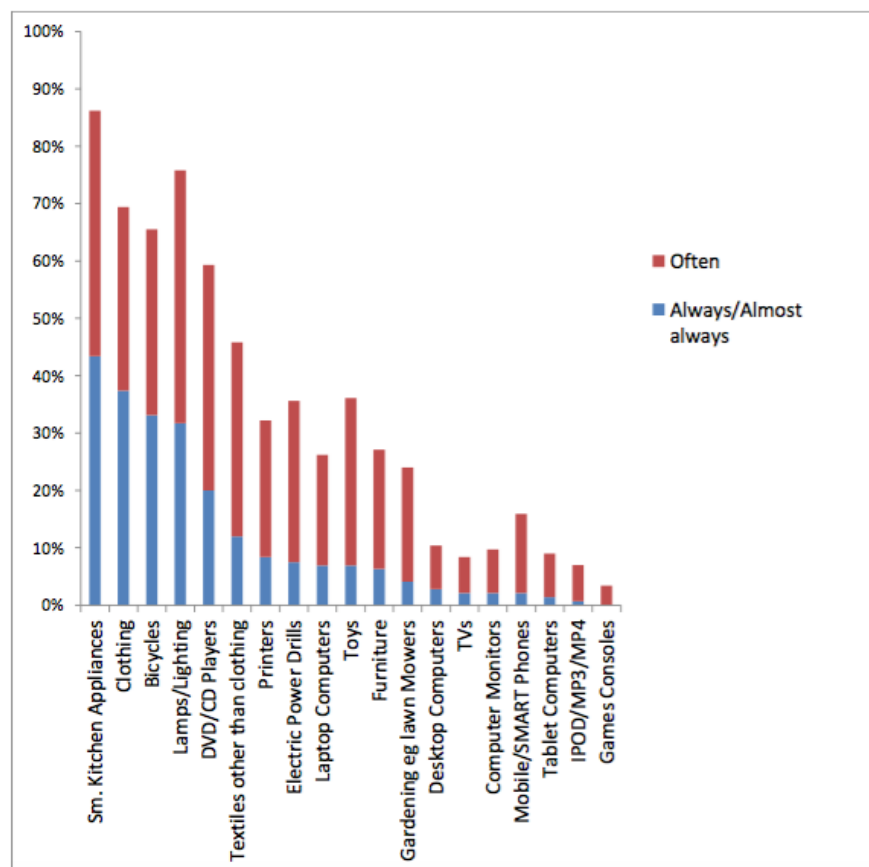


Figure 4: Frequency of items brought to repair cafés (Charter & Keiller, 2014)

According to Figure 4, the five types of items most often brought in for repair are: small kitchen appliances, lighting, clothing, bicycles and DVD/CD players. “Repair Cafés currently make up a growing but nevertheless small part of the product Repair ‘Ecosystem’, along with commercial repairers, online repair guidance and tool and parts retailers” (Charter & Keiller, 2014). Information gathered from surveys, such as the one by The Centre for Sustainable Design, is helpful in determining the desirability and feasibility of implementing more and more repair cafés as well as how they can begin to impact a younger generation.

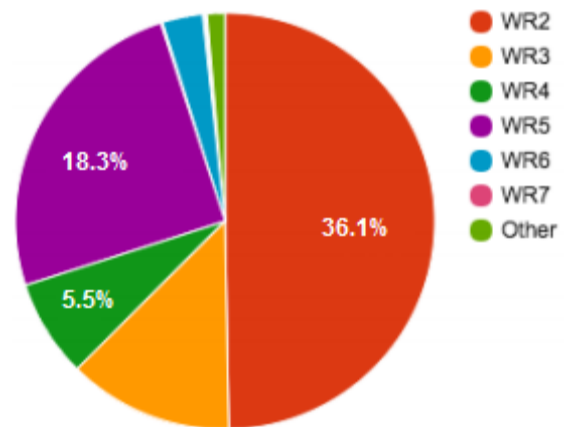


Figure 5: Weighted interest level by area in Worcester (Lindsay, Mattson, & Smith, 2015)

In 2015, a group of students from WPI traveled to Worcester, UK to complete an Interactive Qualifying Project referred to as Repair Café Phase I. The team focused their research on analyzing existing local stable repair cafés and identifying possible locations for potential repair cafés in the towns of Worcester and Ledbury. The students surveyed a representative sample in Worcester. Figure 5 represents interest levels of repair cafés of individuals residing in each of six areas in Worcester. The St. John’s area, W2 postcode, had the highest popularity at 36.13%. Partially based on these results, the students recommended that a repair café be implemented on the St. John’s area (Lindsay, Mattson, & Smith, 2015).

V. City of Worcester and University of Worcester

The city of Worcester and University of Worcester have shown interest in promoting sustainability. Focusing on waste disposal, both have taken initiatives to become more sustainable and environmentally friendly.

Worcester is “now recycling approximately 37% of [its] household waste,” which is a 21% increase from when they first introduced recycling services in 2003 (Worcester City Council, n.d.). The city council website provides information on what can be recycled and has frequent recycling and waste FAQs. Additionally, there is a separate “Let’s Waste Less” website

that shows ways people can reduce, reuse, and recycle in Worcestershire and Herefordshire. The two counties have a joint municipal waste management strategy as an effort to reduce the amount of trash that is brought to the landfill and treatment facility (Let's Waste Less, n.d.a). In 2014, Worcestershire and Herefordshire recycled, composted, and reused 140,292 tonnes of waste, which is equivalent to 227,000 Mini Coopers (Let's Waste Less, n.d.b). An Envirecover plant, a facility which converts waste to energy, will be completed in fall 2016 in hopes that it will be able to convert 200,000 tonnes of waste to energy (Severn Waste Services, 2016).

In efforts to reduce waste disposal, the University of Worcester prioritizes waste management and encourages proper recycling. As part of its proposal with Worcester City Council, the University educated students on exactly what and how to recycle, ultimately resulting in more than a 120 percent increase in student hall recycling (University of Worcester, 2009). In 2007, the University adopted a strategic plan with the purpose to embody and promote environmental sustainability throughout its curriculum, day-to-day operations, and building programs. In 2015, it was ranked 2nd out of 151 UK universities in the People and Planet University League (People & Planet, 2015). Additionally, although the University has already accumulated many environmental awards, Katy Boom, its Director of Sustainability, emphasizes that they “continually aim to improve [their] efforts...[to exceed] environmental standards and public expectations” (University of Worcester, n.d.a).

As an extension to these efforts, the city of Worcester and the University of Worcester are interested in exploring the development of repair cafés. Transition Worcester, a charitable organization committed to building a resilient and sustainable future for the city of Worcester, currently is planning to set up a repair café in May (Transition Worcester, 2016). At the early stages of its initiative, Transition Worcester is advertising for volunteers who can be administrators and repairers through their website and flyers.

Now, Katy Boom and the University of Worcester want to examine the idea of having a repair café on campus. The overall goal of the project is to evaluate the desirability and feasibility of hosting a repair café at the University. In the following chapter, discussed are the methodological approaches for achieving the project goal and objectives.

Chapter 3: Methodology

The goal of our project was to evaluate the feasibility and desirability of universities hosting repair cafés by using the University of Worcester as a model. To achieve our overall goal, we (1) identified the lessons learned from the implementation of repair cafés in various other locations; (2) solicited the opinions of staff, students, and other stakeholders regarding the desirability, feasibility, and operational aspects of repair cafés on the University of Worcester campus, (3) executed and evaluated a repair café on the University of Worcester campus, and (4) developed recommendations for the University of Worcester as well as other universities for implementing university-based repair cafés.

I. Objective 1: Identify the lessons learned from the implementation of repair cafés in various other locations

We conducted in-depth, semi-structured interviews with the directors of MHRC, University of Essex, Universiteit Utrecht, Universität Bremen, and Worcester repair cafés following the protocols described below. We began by interviewing Chris and Jan Dyer, the directors of MHRC since 2012 and have become leading advocates of the repair café movement in the East Midlands area (see Appendix A). We observed the operations of MHRC to determine the reasons for its success. To conduct our observations, we took notes on how effectively the space of the repair café was used, what kind of repair stations were set up, the flow of traffic, and the interactions between the repairer and customer. They have raised grant monies to support the development of a number of repair cafés in Redditch, Bewdley, and Worcester. We attended the Transition Worcester meeting at the Pump House Environment Centre on April 7, 2016 to observe the planning of a new repair café in Worcester. The University of Worcester has been closely monitoring the actions of the Transition Worcester team regarding the nascent of this repair café. Particularly, we were interested in finding examples of repair cafés that have been hosted on other university campuses. We contacted and conducted interviews with each director of these repair cafés (see Appendix B). Directors included Chris Blomeley, University of Essex; Robert Orzanna, Universiteit Utrecht; and Sigrid Kannengiesser, Universität Bremen. Discovering the steps that these cafés took to overcome shortcomings and obstacles, especially

with their respective university's liability policy, was essential in starting our repair café at the University of Worcester.

For our interviewing process, we followed these four protocols. We (1) developed interview scripts and questions using our literature review and going through an iterative process with our sponsor and project advisor and pretested them by asking several students; (2) we identified sample and participants using initial contacts suggested by our sponsor, from existing listings as a starting point, and researching repair cafés hosted specifically on university campuses; (3) we conducted approximately 45 minute in-person interviews with each participant regarding topics such as obstacles, liabilities, logistics, and advice for managing a repair café, or phone/email interviews if it was not feasible to interview in-person, with informed consent and permission to quote (see Appendix A and Appendix B for preamble and survey questions), and (4) summarized conversation with key quotations and themes, which we will detail in our findings found in Chapter 4: Findings. For (3), there will be lead interviewer and scribe roles.

II. Objective 2: Solicit the opinions of staff, students, and other stakeholders at the University of Worcester campus

We solicited the opinions of staff, students, and other stakeholders on the university campus through a series of in-depth interviews and questionnaire surveys.

A. Interviews

Following similar protocols as outlined in Objective 1, we conducted additional interviews with staff and other stakeholders at the University of Worcester regarding the desirability, feasibility, and operational aspects of holding a repair café in a university setting. We interviewed the following people: Katy Boom, our project sponsor and the Head of Sustainability at the University of Worcester (see Appendix C); Andrea Marshall, University of Worcester's Tax Specialist and Insurance Officer (see Appendix E); and Colin Fry, University of Worcester's Health and Safety Coordinator (see Appendix F). We asked them to clarify the goals and key issues that the University would have and put us in contact with other key prospective interviewees.

By interviewing Ms. Boom, we gained a better insight on campus dynamics, campus topology, and how a repair café might best operate a university campus. Ms. Boom's responses

helped us to better shape the kind of questions we asked in our campus-wide surveys of staff and students. Regarding campus dynamics, we learned more about the best times to host pop-up repair café sessions, the days and times that students were most active on campus. Regarding campus topology, we learned which areas on campus were most active and sought after. Examining these two things helped us make a more informed decision on when and where to host the repair café. Lastly, we solicited her opinions on how we could actually run a repair café, which included how we could most effectively advertise to students and what resources were needed to run the actual event.

We were aware that opening a repair café had some liability concerns, with a major liability issue being electrical/electronic devices. In order to determine what we could and could not repair, we had to interview two other key informants (see Appendix E and Appendix F). The first we interviewed was Ms. Marshall. We asked her questions such as if an individual brings in an electronic device for repair, and then someone is harmed from this repair, such as an electrical shock, who is liable for this? One thing that the previous trial repair café was lacking was the ability to repair electronic devices. We also discussed with her what steps we could take if we wanted to have electrical repairs at the repair café? The second person we interviewed was Mr. Fry, as recommended by Ms. Marshall. Mr. Fry gave us more insight on risk management at our repair café and read over our risk management assessment of the different stations that would be at our café.

B. Questionnaire Survey

To sample of the opinions of staff and students more broadly, we developed a questionnaire survey for electronic distribution (see Appendix G and Appendix H). We also developed a draft survey instrument in consultation with our sponsor and advisor. The survey ended up being a mix of closed and open-ended questions based on our literature review and interview data. We then pre-tested our survey on a small group of people and examined the results. We performed the pre-test by handing out our survey to 5 different students that we found on campus. We then gave them the survey and let them take it. After that was complete, we chatted with them for a bit about any feedback they had on the survey or any improvements we could make. The students were very helpful with this part, most spent a good amount of time identifying confusing questions or response categories and making suggestions about how to fix

them. This pretest helped us refine the instructions, questions, and response categories to ensure they were clear and deliver the information and results that we were seeking. After revising from our pre-test, we then conducted the official surveying. In order to facilitate survey delivery and make the data entry and analysis easy, we decided to use Google Forms. This allowed us to quickly create an online survey that looked attractive. We used tablets rather than laptops as the preferred interface. We walked around at different locations on the three University of Worcester campuses at different times of day to solicit responses from a wide variety of staff and students. We also setup tables in the student union and asked students and staff walking by to fill out the survey. The survey was anonymous, and there were different versions to distinguish if the person being surveyed was staff or students. We asked a number of demographic questions to ensure a broad representation staff and students in our sample. We included a preamble to all surveys to obtain consent of the person being surveyed and explain the purpose of the survey (see in Appendix G and H for preambles). We conducted the surveying between April 4 and April 12, 2016. Once we had collected surveys from 41 staff and 100 students, we ceased data collection and turned to data analysis using basic descriptive statistics. We also compared and contrasted differences in the responses of the staff and students.

III. Objective 3: Execute and evaluate a repair café on the University of Worcester campus

We performed one on-campus repair café trial following our preliminary surveys and interviews described above. In order to properly execute, we consulted with Katy Boom as well as with staff and students to determine where the trial should be held, which day of the week and what time of day would be most popular for attendance; as well as decided the kind of repairs that could be offered there, and the best methods to advertise the pop-up. Based on the information we received from students and staff, we held the repair café at the most favored time and place – a Wednesday, April 20, at 12:00pm in the Students' Union. To advertise the event ahead of time, we placed flyers and posters around the St. John's Campus (see Appendix K), table-sat in the main reception, and utilized the Students' Union social media accounts to spread the word. Students and staff assisted in performing a variety of repairs for the customers including: sewing torn clothing, gluing small furniture, fixing software malfunctions, and repairing bicycles. We, and other available WPI students, helped with any minor fixes, such as

gluing and software repairs, to investigate the likelihood of having students volunteer at repair cafés in the future. An evaluation card was filled out by each participant focusing on: “What did you feel worked well at this repair café? How could we improve for next time? Would you utilize this as a resource in the future?” (see Appendix I). The trial repair café was a strong addition to our project, and a great lead for our recommendations to universities in potentially implementing consistent repair cafés.

IV. Objective 4: Develop recommendations for the University of Worcester as well as other universities for implementing university-based repair cafés

Our fourth and final objective was to develop a strategy on how to execute repair cafés on university campuses. We began by analyzing the data we received from our on campus surveys. In order to determine how feasible and desirable a repair café would be on college campuses, we focused our survey questions on how students and staff feel about introducing a recurring repair café on their campus, where the most popular location would be, how often they would want this to happen, and if they feel they can trust volunteers in repairing their items (see Appendix G and Appendix H). We also took into account any insight we gained from our stakeholders listed in Objective II. With the help of these individuals, we assessed what obstacles we had to overcome. After compiling all of our findings, we created a plan for implementing repair cafés into universities by using the University of Worcester as a model. The plan includes a list of likely repaired items, popular times and days as well as preferred periodicity and location. As these are specific to the University of Worcester, the surveys that we created to find this information are included so that other universities may gather their own specifics. Our recommendations also include how universities should deal with insurance/liability issues, who should be volunteering (students and staff, community members, or both) and finally, popular marketing techniques and participation promotion. This guide should be able to be utilized by any university looking to get involved with the repair café movement and are looking for a place to start.

V. Conclusion

By completing our four objectives, we gathered valuable data that was used to help us make final recommendations. The interviews we conducted with university-hosted and other established repair cafés helped determine the essentials on how to effectively run a repair café,

the interviews held with key stakeholders of the University of Worcester and the results from the staff and student surveys aided in developing the specific logistics of hosting a repair café on the University of Worcester campus. Hosting a trial repair café on the campus and getting survey feedback from attendees gave us more information on how to make a successful university-hosted repair café. Using the data detailed in the Findings section found below, we formulated recommendations for the University of Worcester going forward and any other university that desires to run on-campus repair cafés.

Chapter 4: Findings

Our findings are divided into four sections to address our four main objectives described in the previous chapter. These sections include (1) lessons learned from established repair cafés, (2) university survey and interview results, and (3) trial repair café. We used the accumulation of the first three sections to develop (4) our recommendations for the University of Worcester and any other university that wants to host on-campus repair cafés.

I. Lessons Learned from Established Repair Cafés

We interviewed representatives of five established repair cafés in the UK and Europe to get insight on how to effectively run a repair café. In addition, we observed the operations of Malvern Hills Repair Café (MHRC) to learn about their repair station setup and the interactions between the repairers and customers and attended a meeting of the Worcester Repair Café to learn how they are preparing for their first repair café. These repair cafés are part of different models. For example, MHRC is an independent, community-led repair café that is encouraging other similarly organized cafés based in Redditch, Bewdley, and Worcester. Other cafés have involved university and community partnerships in various arrangements. For instance, some repair cafés have been hosted on a university campus, but are community-led and open to the general public. The University of Worcester, in particular, wanted to host repair cafés that were led by staff and students and open exclusively to the university campus. Through our interviews and observations, we found overarching themes that were applied to our final recommendations.

a. Malvern Hills Repair Café

Malvern Hills Repair Café was founded in December 2012 by Chris and Jan Dyer. Since then, “over 1500 customers have brought more than 2200 household and personal items to be examined and assessed” at a consistent 80% repair success rate at the MHRC (Malvern Hills Repair café, n.d.). In 2015, over half of the repairs completed were

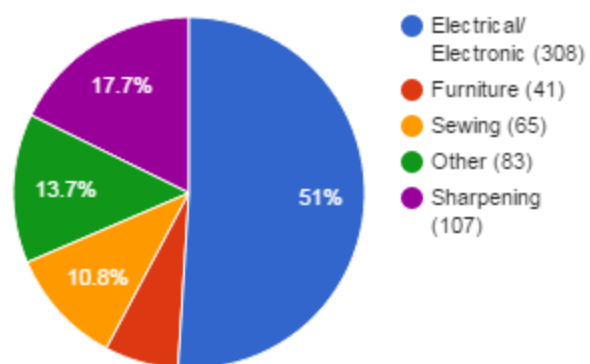


Figure 6: Repairs completed at MHRC in 2015 (Dyer, 2016)

for electrical or electronic devices (Figure 6). As shown in Figure 7, previous years also follow a similar trend. Based on research that MHRC has conducted, they found that hand-held, portable household electrical appliances make up the majority of repairs at most repair cafés with demand for electronic repairs increasing each year. As noted previously (Figure 5), Charter and Keiller in 2014 found similarly in their survey of nine countries that the proportion of electrical or electronic items is typically much greater than any other type of item.

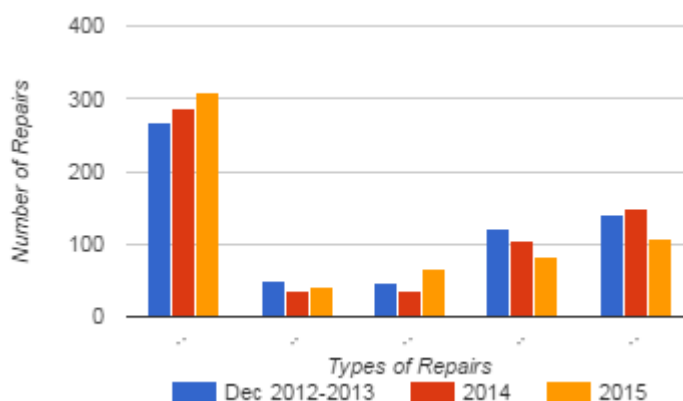


Figure 7: Total number of repairs by type of item and year (Dyer, 2016)

On March 19, 2016, we visited the MHRC during one of its regular monthly meetings at the Friends Meeting House in Malvern. The purpose of this visit was to observe the layout and operations, as shown in Figure 8, as well as informally interview the volunteers. There were receptionists at the entrance that handed out and collected registration forms and disclaimers as well as encouraging departing customers to make a donation. The café space was located near the reception area and offered tea, coffee and cakes made by volunteers, all available for a small price. There was a seating area for customers that wanted to socialize or are waiting to be serviced by the next available repairer. In a small room adjacent to the café and waiting area was the sewing room where two volunteers worked on clothing, textiles, soft furnishing and a variety of other sewing repairs. The main repair room was directly to the left and much larger in order to accommodate the high demand of repairs.

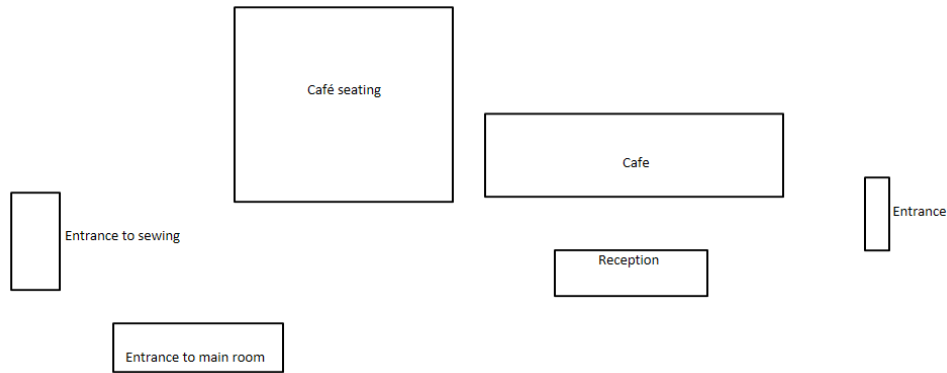


Figure 8: MHRC entrance layout

As shown in Figure 9 and Figure 10, the repair stations in the main repair room were arranged in a large U-shaped. Whether it was woodworking, electronic repair or even tool sharpening, each repairer engaged the customer in actively making the repairs. The customer sat with the repairer to observe and assist in the fixing, which makes the learning experience highly social and effective (Figure 11). Typically, the majority of items are repaired on the spot.

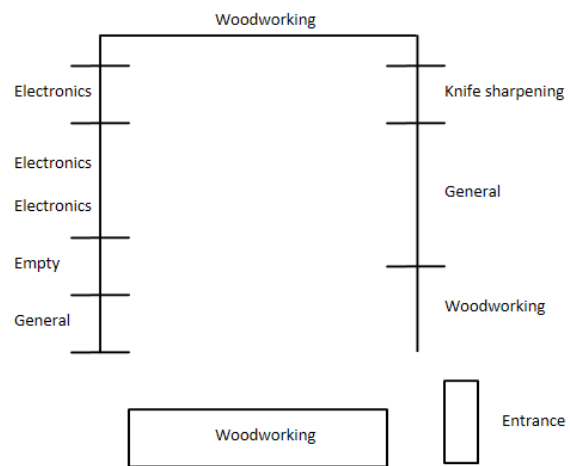


Figure 9: Layout of the MHRC main repair room



Figure 10: Photo of the main repair room

Occasionally, a repairer might offer to take an item home and complete a more specialist and lengthy repair. This is considered to be a private arrangement between the repairer and customer and they make the appropriate arrangements for collection of the repaired item at a later date. Some repairers at MHRC mentioned that items, especially electronics, are becoming increasingly difficult to fix. They believe companies are not necessarily making products last longer as they are more cheaply

produced, often with built-in obsolescence and sealed units where generic tools cannot be used to access and repair them. The volunteer repairers reported that the majority of repairs at the MHRC were small electrical household appliances with an increasing number of electronic items, which is consistent with the data reported in Figure 5 and Figure 6. Both the directors and repairers at MHRC believed that a university-hosted repair café would be difficult to host successfully and continuously without offering electrical repairs as they guessed students would be most likely to request repairs on small electronic gadgets and devices.



Figure 11: Photo showing the interactions between repairer and customer during a repair

Due to the success of MHRC, Jan and Chris Dyer received grants to expand repair cafés by working with various communities nearby such as Worcester.

b. Worcester Repair Café

Repair Café Worcester is an initiative led by Transition Worcester and the Duckworth Worcestershire Trust (DWT) and partially supported by MHRC. It is an emerging repair café that will be community-led and opened to the community. On April 7, 2016, we visited the Transition Worcester team at the Pump House Environment Centre. We wanted to observe their meeting to learn how they planned and organized for their first Worcester Repair Café on May 14. They discussed advertising strategies at length, including the designs of their current posters and flyers and the locations of where they should distribute such posters and flyers. For social media, they had Facebook and Twitter accounts specifically for the repair café and used the Transition Worcester website to blog about their event. They had 18 volunteers already signed up, who specialized in areas such as mechanics, electrics/electronics, cake making, and sewing. As they were in close contact with MHRC, they planned to borrow volunteers at MHRC that had skills not available in their current volunteer group. The Repair Café Worcester team held a meet-and-greet on April 23 to determine what tools volunteers already had and what else they may need. Following the first event on May 14, the organizing committee will ask volunteers to

fill out a wish list of tools and materials they might want for future repair café events. They will have a disclaimer that must be signed by customers before any repair is performed. They have insurance, but it only covers emergencies, such as a fire, and not for repair injuries. Lastly, they discussed funding and talked about asking Worcestershire County Councillors for money from their individual Divisional Fund, targeting different councillors to fund various aspects of the repair café (insurance, tools, consumables, etc.) In addition, they have financial support from MHRC.

c. University-hosted Repair Cafés

We interviewed directors and representatives of three repair cafés that have been hosted on campuses at the University of Essex, Universiteit Utrecht, and Universität Bremen to get insights about their initial steps, marketing strategies, most frequently brought in items, liability policies with their universities, biggest challenges, volunteers, and advice to us.

University of Essex

The University of Essex Repair Café has been held three times since it began in September 2014. Each time, it has been hosted in the Wivenhoe Library on the Colchester Campus. Chris Blomeley stated that one of the reasons he helped found a repair café at the university was because he wanted to work with a generation of young people that were open to new ideas and willing to change the current throwaway culture (personal communication, March 29, 2016). He has an indirect relationship with the university; he attended the university's Green Week as an outside volunteer in 2014 and developed a mutually beneficial relation with the university thereafter (personal communication, April 12, 2016). Sessions have been held using volunteers from the local community, every month since September 2014 (personal communication, April 12, 2016). Mr. Blomeley sought volunteers from the wider community rather than from among university staff and students because he found it easier to identify and recruit excited and interested people from the community who already had a passion for repairing items (personal communication, March 29, 2016). He found that cell phones with broken screens were the most common repair items. Mr. Blomeley gives his customers the choice of bringing their own replacement screen, or if there were enough donations from previous repair cafés he would offer to buy it for them (personal communication, April 12, 2016). He stated that the key to running a repair is to promote a degree of personal responsibility

because a lot of people in the UK are still very concerned with safety, risk, and liability (personal communication, March 29, 2016). While the café uses a liability form that must be signed by the customer, his goal was to create a community of trust, where people would gain a different view on liability due to the non-profit and service nature of the project (personal communication, March 29, 2016). Mr. Blomeley and the University of Essex agreed that because of this trust established by the customer and repairer, if something were to go wrong, neither the repair café nor the University would be held liable.

Universiteit Utrecht

The Utrecht Repair Café is based in Netherlands at Universiteit Utrecht and was started by a student named Robert Orzanna in December 19, 2015. A student-run bicycle repair shop called “What the Fiets?” already existed at the university and he wondered why only bikes were being repaired when so many other items might also be repaired (personal communication, April 4, 2016). He coordinated with the university’s Green Office and networked with friends to find second hand tools. Mr. Orzanna used social media, such as Facebook events, flyers and posters, and the Green Office’s website for advertisement. The repair café was held on the last Friday of every month since it was founded and is open to anyone, to give an opportunity for the community to interact and meet students (personal communication, April 7, 2016). Some of the volunteers were staff and students while others were experienced volunteers from other repair cafés (personal communication, April 7, 2016). The most popular items were electronics, wooden articles, and fabrics. In terms of liability, the repair café used a waiver that stated it was not liable for damages resulting from any repairs. Currently, the repair café is on hold, however, due to organizational issues as Mr. Orzanna has now graduated and did not establish an organization network that could continue the café in his absence (personal communication, April 4, 2016). Indeed, Mr. Orzanna said that the biggest challenge he faced was setting up a team and organizational structure that would maintain the repair café when he moved on (personal communication, April 4, 2016). Mr. Orzanna recommended securing participation by university staff and faculty to ensure continuity in operations as students graduate (personal communication, April 4, 2016).

Universität Bremen

The Universität Bremen hosted its first repair café in the summer of 2014 as a project for a seminar taught by Dr. Sigrid Kannengießer. Dr. Kannengießer teaches in media and communication studies and conducts research on media and consumption criticism. She challenged her students to organize a repair café and discuss the project's relevance from a media and communication perspective (personal communication, April 8, 2016). The students began by addressing basic logistics, including where the repair café should be held and finding volunteers from the community that could fix electronics, small kitchen devices, bicycles, and textiles. Finding willing and skilled volunteers was a challenge at the beginning. Dr. Kannengießer recalled that her student's marketing techniques were highly successful. They got the message out through social media such as Facebook as well as enlisting the help of local media stations for television, radio, and newspapers. A mixed group of volunteers including students and older members of the community participated in repairing mainly electronic items and kitchen appliances. During the seminar, Dr. Kannengießer and her students studied other successful repair cafés and found that since liability can be a sensitive aspect of electronic repair, it would be in their best interest to have customers sign a lengthy disclaimer and read the "house rules" posted at the event prior to having any items repaired (personal communication, April 8, 2016). After two years, the team has never experienced any problems regarding liability and there have been no signs of near-injuries. She also noted that they are working on becoming part of a network of German repair cafés that are all insured together (personal communication, April 8, 2016). The repair café in Bremen continues to take place every other month, however, it is no longer managed by university students and has moved off campus as it has evolved into a community-wide project.

II. University Survey and Interview Results

We conducted three interviews with stakeholders at the University of Worcester and collected a total of 100 student responses and 41 staff responses using two separate surveys. In order to gain more knowledge on how to set up a repair café on the University of Worcester campus, we needed to gain more insight in a few areas, such as information about the university itself, their insurance and liability policies, and their risk management. With the surveys, we learned more about the desirability and preferences of the students and staff regarding repair

cafés, like the kinds of items they would bring in, their preferred location, and the best time they would like a repair café to be held.

a. Interview Results

The first way we did this was by interviewing key Katy Boom, Director of Sustainability at the University of Worcester and our project sponsor, which provided insight on how the University operates on a daily basis and her belief on the way a repair café should be ran on the University of Worcester Campus. She detailed the specific of campus dynamics, such as how Tuesdays and Mondays would be the best days, and having it run from 12:00pm to 2:00pm as the best time, which aided in the logistics of our pilot repair café (personal communication, March 21, 2016). The way Ms. Boom would like the repair café to run is unlike how other current repair cafés operate. Most other repair cafés rely on volunteers, with experience in a variety of fields of repair, from the local community. However, Ms. Boom wants this repair café to be exclusively run by members of the University of Worcester community. She would like to utilize the staff who may possess repair skills to be volunteers (personal communication, March 21, 2016). The end goal that Ms. Boom wishes to achieve is to eventually write the handbook on how to run university-hosted repair cafés (personal communication, March 21, 2016).

Andrea Marshall is the Tax Specialists and Insurance Officer for the University of Worcester. In order to host a repair café on campus it was necessary to get in contact with her to discuss any liability or insurance issues. Ms. Marshall explained that the University has a Public Liability Insurance Policy, which has a £25 million liability cap. When volunteers are repairing items or customers are repairing their own, there is always the risk of injury, which can be detrimental to the repair café itself and also the university.

Our first concern that we discussed with Ms. Marshall was what would and wouldn't be covered by the university's insurance policy. Her biggest concern was if the university was seen to be negligent, would the activity be covered by the University's insurance policy and any costs met by the insurers? For example, if someone with no electrical experience attempted to repair a hair dryer and then was hurt during the repair or later, the customer was hurt because of the repair, the university would be liable, but as repairing electrical equipment is not an activity that has been disclosed to the University's insurers, it would probably not meet the cost of any claim.

One of our largest goals for the repair café was to try and implement electronic device repair, which was not implemented in the trial repair café during Green Week. Ms. Marshall informed us that this would most likely be possible with an extra insurance premium and just like the other repairers, electronic repairers would need to have proof of qualification and experience. The question then arose of whether the facilities electrical team would be qualified to perform these repairs, but since they are only insured to repair the campus, this wouldn't be possible. In the end, Ms. Marshall said for electronic repairs to take place we would have to extend the insurance policy and find the properly qualified people.

Our next concern was liability forms. Ms. Marshall stated that it would be a good idea to have repairers and customers fill out liability forms before repairing or getting their items fixed. However, she mentioned that sometimes disclaimers aren't the paper they are written on, meaning that if an issue was taken to court, a signed liability form doesn't mean you are definitely covered. Another thing she mentioned was that we had to prepare a risk assessment for our event. This is a document that defines all of the possible risks at our event and is broken up into sections such as bike repair, clothing repair, furniture repair, etc (see Appendix J). Once we completed our risk assessment, we sent it to Colin Fry.

Colin Fry is the University of Worcester's Health and Safety Coordinator. He agreed with Andrea and said that as long as the person who was repairing was well qualified, then there should not be a liability problem (personal communication, April 5, 2016). The issue with electrical repairs was if someone possibly doing something they were not certain of. He explained that the risk assessment is straightforward and it would be more up to the repairer to determine if it is possible to repair the item. In addition, he stated that disclaimers may not hold up in court if negligence can be proven. For insurance, the repair café would be considered a student activity so the insurance should not have a reason to query it (personal communication, April 5, 2016).

b. Staff and Student Opinions

We gained more knowledge on how we should go about setting up a repair café on the University of Worcester by interviewing the students and staff at the University of Worcester. From the 100 student responses and 41 staff responses, we received a wide range of responses on

questions regarding demographics, advertising, periodicity and location preferences, volunteering interest, and personal repair skills.

Demographics

The student sample was evenly distributed across years: Twenty nine students were first years, 31 were second years, and 28 were third years (Figure 12). Because there are many ‘mature’ students at the University of Worcester, the ages of the students ranged from 19 to 43. According in Figure 13, respondents included a good sample from each of the major subject areas.

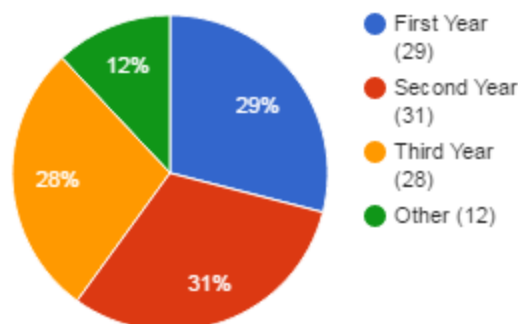


Figure 12: Students by study year (n=100)

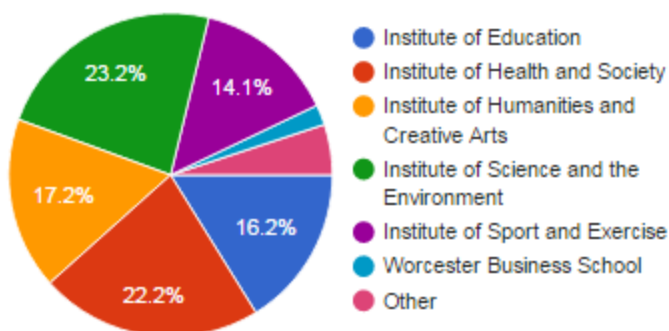


Figure 13: Proportion of students in each Institute (n=99)

The age groups of the staff sample 20-29 years old, 30-39, and 40-49 had similar proportions while the 50-59 age group had the lowest percentage as seen in Figure 15. Majority of the staff surveyed were part of the Administrative and Support Staff at 53.7%. The distribution of positions of the staff surveyed can be seen in Figure

14. Seventy one point one percent of the staff has worked at the University for less than five years.

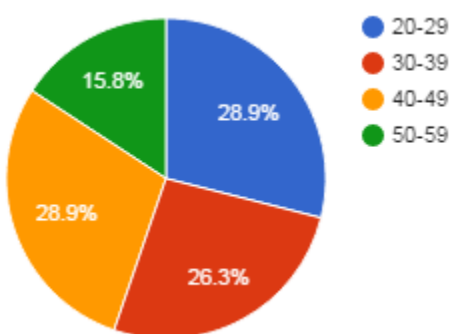


Figure 14: Staff by age groups (n=38)

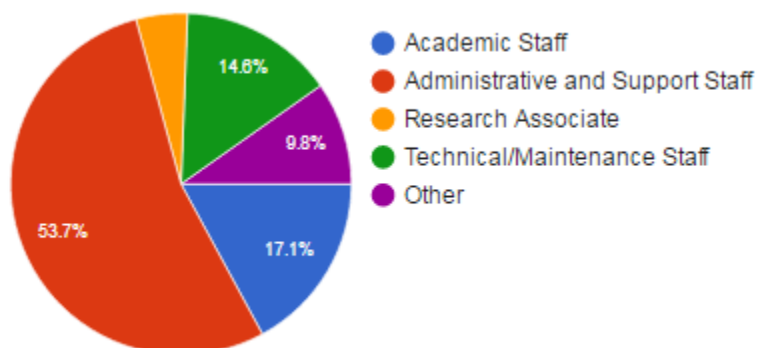


Figure 15: Proportion of staff positions (n=41)

Repairing/Recycling Habits and Needs

The goal of questions 1-4 on our staff and student surveys was to gain knowledge on student and staff's current recycling habits.

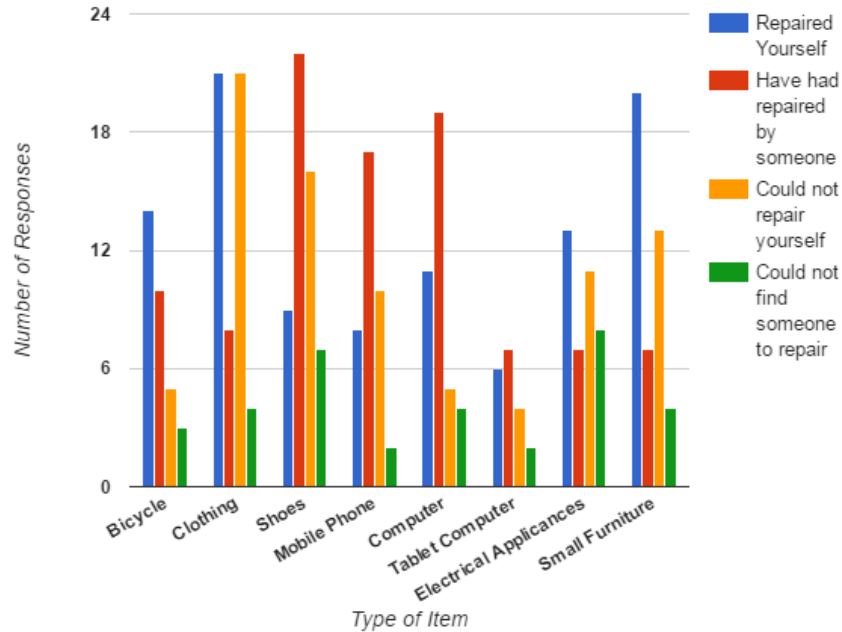


Figure 16: Items that staff could or could not repair or have repaired

As seen in Figures 16 and 17, many students and staff repaired some items on their own, but had many others, especially electronic devices and shoes, repaired by someone else. There were many items of clothing that students and staff could repair, but also many that they could not. Textiles items were thrown away the most mainly because the person could not repair the items themselves. For electronic devices, staff threw them away because they could not repair them themselves, but for students, it was split 50/50 between they could not repair the item themselves and could not find someone to repair it for them.

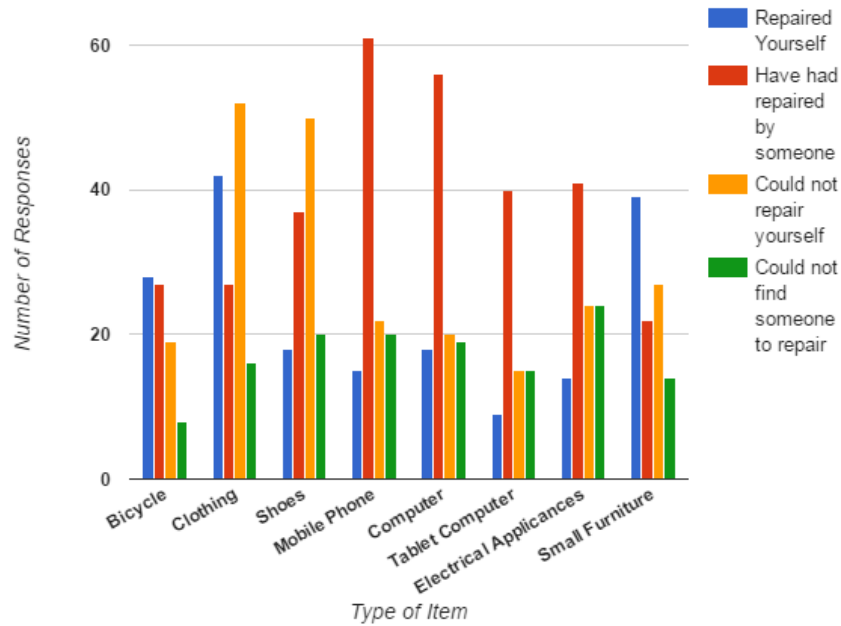


Figure 17: Items that students could or could not repair or have repaired

For what type of items students and staff would bring to a repair café if one were to be held on campus, we found that both the students and staff would be most likely to bring in electronic devices (Figure 18). A large majority of students indicated they would most likely bring in mobile phones (77.8%), computers (76.8%), and tablets (64.6%). By contrast, smaller proportions of staff indicated they would bring in these items, with 62.5% likely to bring in computers, 50% bringing in tablets, and 47.5% bringing in mobile phones. The lower percentages from staff may be because staff are likely to be in an older generation that do not heavily use electrical items.

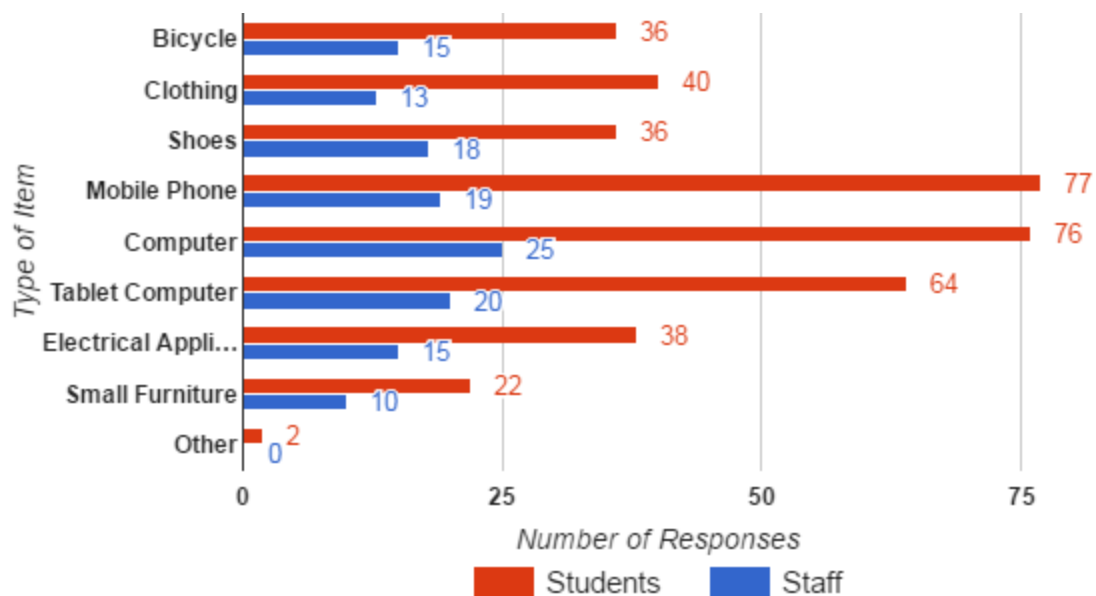


Figure 18: Items that staff and students would bring to the repair café

Lastly, for what old appliances and devices the students and staff have recycled in the past year, students and staff indicated that the most recycled item was clothing and shoes and the least recycled were electronic devices.

We asked a series of questions pertaining to the knowledge of repair cafés and found that staff were much more familiar with the concept than students were. Thirty four percent of staff knew the purpose of a repair café compared with only 10% of students. Five percent of staff (compared with 2% of students) had previously visited a repair café, and 46% of staff (compared with 12% of students) could identify a café by name. Among our sample of students and staff, 2% of students and 5% of staff attended the University's last repair café during Green Week.

Advertising, Periodicity, and Location

We asked a series of questions regarding preferred location, day, and time for future repair cafés on campus, as well as the best methods for advertising the events.

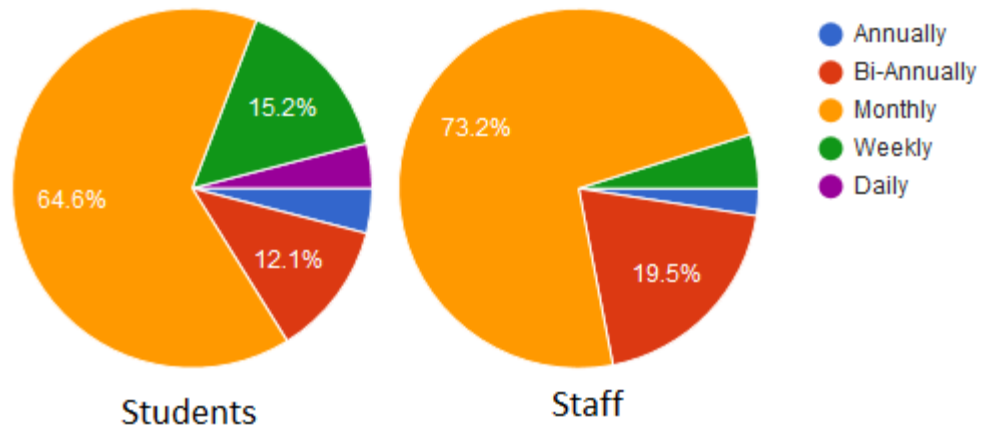


Figure 19: Proportions on how often a repair café should be held on campus

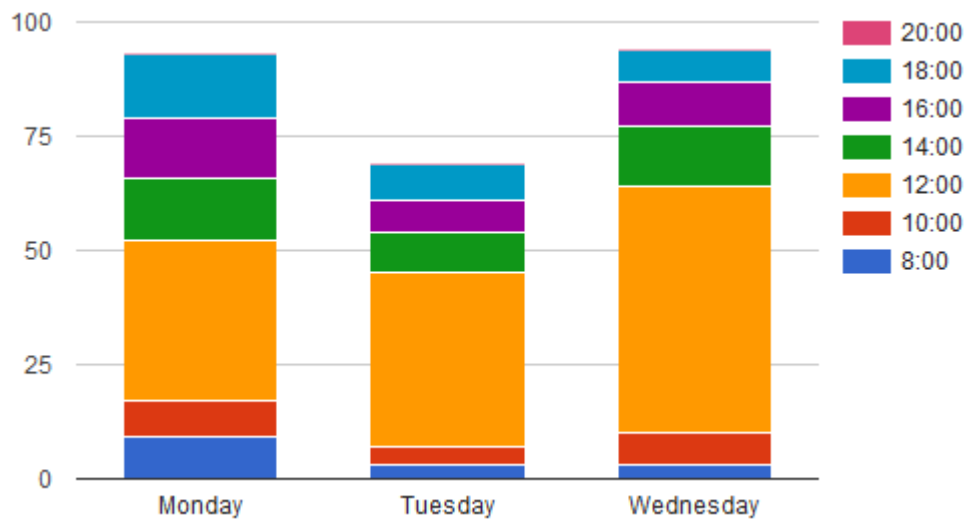


Figure 20: Sum of staff and students responses on the best time a repair café should be held

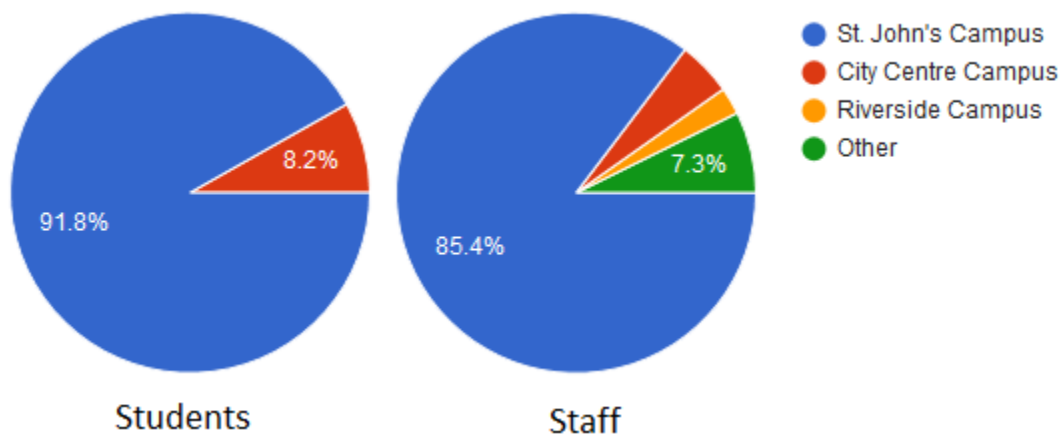


Figure 21: Proportions on where a repair café should be held

Both the students and staff agreed by a large majority that any future repair cafés should be held monthly on Wednesdays starting at 12:00 on the St. John's Campus as shown in Figure 19, 20, and 21. As seen in Figure 22, both students and staff indicated they would prefer to be notified about upcoming repair cafés through email, social media as well as using posters and flyers. Looking closer, you can see that students emphasized social media more than staff while staff preferred the weekly news more than students. The weekly staff news is a publication that is updated every Monday and sent out to the staff. It is also available publicly by going to the University of Worcester weekly Staff News Wordpress.

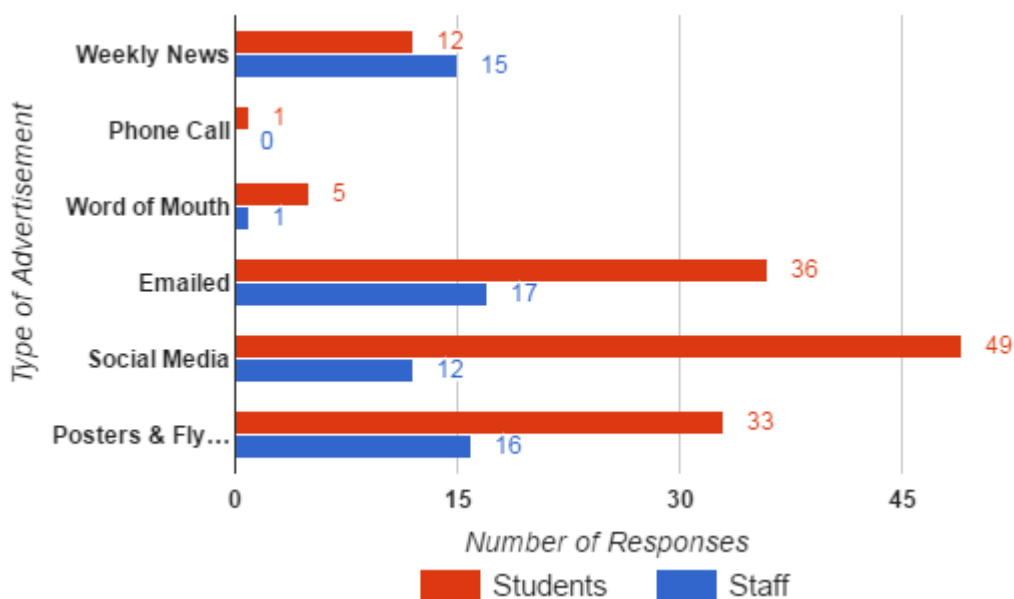


Figure 22: Student vs Staff for preferences on being notified of an upcoming repair café

Volunteering and Repair Skills

We asked a series of questions to gauge whether members of the University of Worcester community had the repair skills, interests, and qualifications needed to volunteer in the repair café. We discovered that over half of the students and staff have some sort of repair skill, with sewing being the most prevalent skill for both groups. More surprising was that more than 70% of the staff and almost 60% of the students we surveyed taught themselves their individual repair skill, seen in Figure 23.

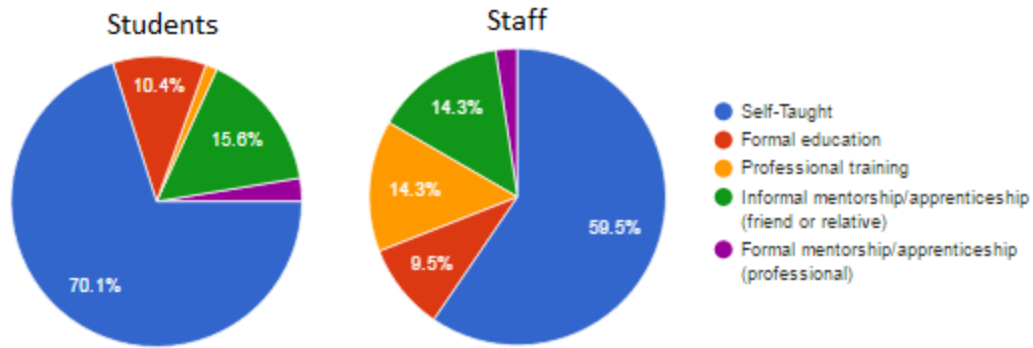


Figure 23: Data on how students and staff learned how to repair

However, even though a majority of students and staff have the capability to repair 84.4% of students and 75.8% of staff indicated they would *not* be willing to volunteer their time and skills. This means out of the 140 of staff and students we surveyed, 115 of them would not volunteer for a repair café. The 25 remaining survey participants, 15 being students and 10 being staff, were split between all the repair stations that would be available. Students preferred to volunteer at the sewing station while staff preferred to volunteer for the bike repair station as seen in Figure 24.

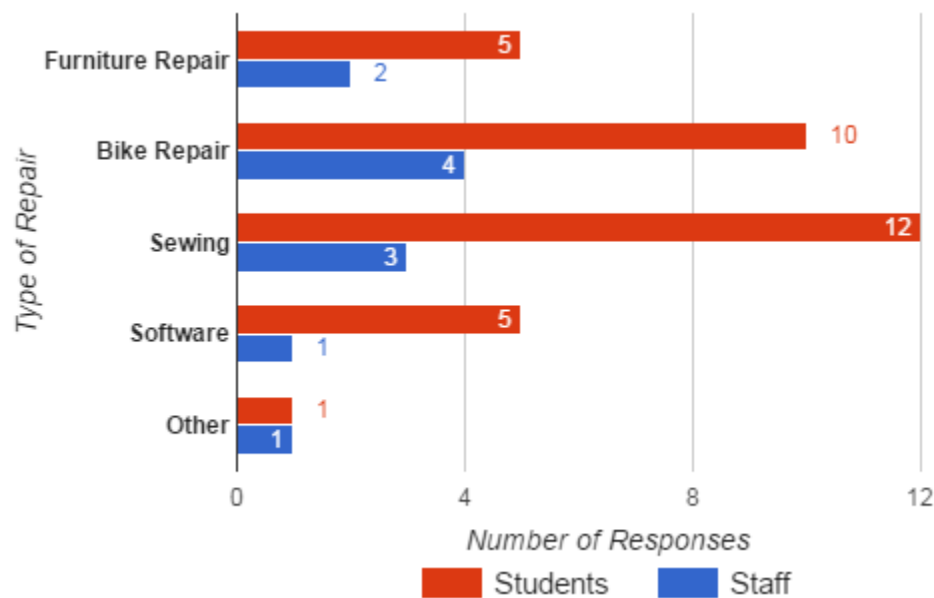


Figure 24: Repair stations that staff and students were willing to volunteer at for future repair cafés on campus

III. Trial Repair Café

Following the interviews we conducted with our stakeholders and surveying opinions of staff and students, we hosted a trial repair café at the University of Worcester on Wednesday

April 20, 2016. We reached out to specific staff that possessed specific skills to perform repairs that were allowed by the University's current liability policy, meaning we did not solicit any volunteers to perform electrical or electronic repairs. Two staff members, Gordon Nicholls and Rita Guest, assisted in bicycle repair and sewing repairs, respectively. Our team of four as well as other students from WPI helped in any minor fixes, such as gluing and software repairs, to investigate the likelihood of having students volunteer at repair cafés in the future. We chose the date and time, Wednesday at noon, based on the highest popularity recorded by students and staff in our original surveys. In order to advertise the event we posted flyers and small handouts all around St. John's Campus over the course of a week prior (See Appendix K). We also table-sat and utilized the Student Union's social media account in order to better attract our generation's audience. In spite of all our outreach efforts, we had only 10 participants (5 staff, 1 student, and 4 non-university patrons) brought a total of 16 items to be repaired. From bike fixes to clothing rips and simple gluing, no repair was considered too small and the customers expressed their thanks for the provided service. Our attendees were asked to fill out a simple evaluation upon departing that can be seen in Appendix I. All of the attendees marked that they would utilize a repair café as a resource again and they would encourage a friend or family member to attend one. When asked "how could the repair café be improved in the future" participants expressed that more advertising, such as email, would have been helpful in addition to the advertising techniques used. Other respondents would have liked electrical/electronic repairs to be offered in the future, which would require additional cooperation of the University's insurance policies as well as potential assistance from the outside community.

Chapter 5: Conclusions and Major Recommendations

I. Conclusions

- Repair cafes are increasingly popular throughout Europe and beginning to proliferate in the UK, including several recent new startups in Worcestershire. Since we began our project on January 14, 2016, a total of 103 repair cafés have been newly established, showing the momentum of the repair café movement.
- Several repair cafés have been established on university campuses including: University of Essex, Universiteit Utrecht, and Universität Bremen. However, these tend to migrate more to community-based cafes over time. All of these repair cafés are open to the public, and their volunteers mostly comprise of skilled and experienced members of the community. Also, directors have found that it is often more difficult to motivate younger generations in developing a mindset to repair.
- The University of Worcester would like to implement a repair café on campus by using exclusively student and staff volunteers as a way to change attitudes and awareness and further develop the culture of sustainability on campus. The plan is to make this repair café solely available to the on-campus community.
- The University of Worcester is tentative about and presently opposed to the repair of electrical and electronic items at a repair café on campus because of concerns about the qualifications and certifications of staff and student repairers and potential liability.
- Recruiting skilled and willing volunteers and attracting large numbers of patrons from among students and staff remains a perplexing problem on the UW campus. The previous trial repair café conducted in Green Week (February 8-12, 2016) attracted only 15 patrons and our trial repair café on April 20 attracted 10 patrons with 16 items for repair in spite of a more extensive outreach effort. A major difficulty lies in changing the culture of the younger generation. At our trial repair café, of the 10 patrons, only one person was a university student. Another reason is the lack of an on-campus activities notification system where students can receive emails with weekly and daily news.
- Other repair cafés in communities and on university campuses have found that electrical and electronic items are the most common items people bring in for repair and have dealt with the issue of liability in various ways by having skilled repairers from the outside

community and requiring customers to read house rules and sign disclaimers. These universities have not found liability to be an impediment and surprisingly perhaps, given the litigation nature of the United States, Jon Bartelson, Compliance Officer at WPI, indicated that he did not think liability would be an impediment in the US.

II. Recommendations for the University of Worcester

- The University of Worcester should continue to pursue the idea of developing an on campus repair café using university staff and students as volunteers, but should this not work out, the University should consider various models of cooperation with the nascent Worcester Repair Café, including the use of community volunteers and offering the campus as a venue for community repair cafés.
- The University of Worcester should explore ways to offer repairs on electrical and electronic items. From our discussion with the University of Worcester's insurance officer, we were informed this would be possible if the insurance policy was extended and electronic repairs were carried out qualified professionals.
- We recommend the University of Worcester host any future repair cafés once a month on the St. John's Campus in the Students' Union, more specifically the Pear Tree as this is most popular location identified by the students and staff we surveyed.
- We recommend the University of Worcester host any future repair cafés for 4 hours rather than the previous 2-hour sessions, if possible. Making the repair cafe longer would make it more convenient for students to bring in their items in between their usual daily activities.
- We propose the University of Worcester adopt a daily email news system for the student body in order to inform them of activities happening on campus. Even though most of the students have social media accounts, such as Facebook, very few knew about the on-campus events posted by the University on social media accounts.
- We recommend that the University create an environmental club that would plan events such as the repair café. They can find a staff as a facilitator and also utilize the Student Union's Sustainability Officer to ensure that the club remains sustainable. It will attract passionate students that have an interest in saving the environment and inspiring other

students. We believe that an environmental club is one step toward changing the culture of the students at the University.

III. Recommendations for universities in general

- We recommend to universities that wish to host repair cafés on their campuses to use our survey results and findings to prepare and maintain their repair cafés. We also believe it would be useful to conduct independent surveys (using ours as guidelines) to determine preferences specific to the university's population. It is important to consider how many people are interested, where and when the event should be held, how often, and what kind of repairs would be most sought after.
- We determined that the best location to host a repair café on a university campus is in high traffic areas and recommend other universities hold repair cafés in a similar setting. This is so that students and staff do not have to go out of their way to find and use the repair café service.
- We suggest that universities utilize social media and emails to advertise their events, but posters and handouts can also be helpful to reinforce the message that the event will be happening. Any way that the university currently announces events that are happening on campus should be utilized by the directors of the repair café.
- We anticipate that electrical items will most likely be brought in to any repair café so we suggest checking the university's current liability and insurance policies as it is important. Otherwise, it could limit the repair café from offering electrical repairs, and thus, deter the number of people that attend. We suggest working with the health and safety coordinators to update any of these policies as needed.
- Because of potential liability concerns, we recommend finding qualified volunteers as repairers by sourcing them from the local community and/or university. This would also enhance the social aspect of the repair café and get students more involved with the community and vice versa. Students and staff can also learn a lot from skilled repairers from the community.
- We suggest that universities contact and coordinate with community groups and/or previously established successful repair cafés. This has proven to have led to the growth of university-based repair cafés and also the overall sustainability of individual

communities. For example, the Universität Bremen has become part of a successful network of German repair cafés.

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Appendices

Appendix A: Interview Questions for Chris and Jan Dyer

We're working with the University of Worcester on determining the desirability and feasibility of implementing Repair Cafés on university campuses. This project is part of a degree requirement at our university back in the United States in which we need to complete a report.

Do we have your permission to use any information we receive from you in this report?

1. Why did you get involved with repair cafés?
2. Why do you think your repair café is considered to be successful?
3. What have been the biggest challenges you've encountered? How did you overcome them?
4. What have been your biggest successes?
5. What are the top items brought to be fixed?
6. What age groups generally are bringing items to be repaired?
7. What is your opinion of having a repair café on the University of Worcester campus and other university campuses?
8. What is your liability policy?
9. Have there been any incidents where people have been injured from repairs? For example, someone had their bike fixed but then later was injured because it was improperly repaired.
10. Have there been incidents where people were injured while doing the repair?
11. Have there been incidents where items became more damaged because of the repair?

Appendix B: Leaders of University-based Repair Cafés

We're working with the University of Worcester on determining the desirability and feasibility of implementing Repair Cafés on university campuses. This project is part of a degree requirement at our university back in the United States in which we need to complete a report.

Do we have your permission to use any information we receive from you in this report?

1. Why did you start a repair café on your university campus?
2. What were the initial steps you took in establishing your repair café?
3. How did you market your repair café?
4. What are the top items brought in to be fixed?
5. What is your university's liability policy?
 - a. Have there been incidents where people were injured while doing the repair?
 - b. Are there limitations on what items can be repaired because of liability concerns with the university?
6. What have been the biggest challenges you've encountered? How did you overcome them?
7. How often do you hold a repair café on campus?
8. For university-based repair cafés, does it use volunteers from the outside community or students and staff?
9. What advice do you have for implementing one on a university campus?

Appendix C: Katy Boom

We're working with the University of Worcester on determining the desirability and feasibility of implementing Repair Cafés on university campuses. This project is part of a degree requirement at our university back in the United States in which we need to complete a report. Do we have your permission to use any information we receive from you in this report?

1. What are the campus dynamics?
 - a. What are the most popular places on campus?
 - b. What times of the day is the campus most active?
 - c. The best times to host a pop-up repair café?
2. Opinions on how to run a repair café effective and efficiently?
 - a. The most effective way to advertise to students?
 - b. How to make repair cafés appealing to students?
 - c. What resources we would need to run a repair café?
3. Liability
 - a. Is the repair café a separate entity or part of the university?
 - b. Were there any lawyers involved?
 - c. What is your insurance policy? Who is covered and who is not?
 - d. Discuss potential edits for release disclaimer to have stronger language.

Appendix D: John Bartelson

We're working with the University of Worcester on determining the desirability and feasibility of implementing Repair Cafés on university campuses. This project is part of a degree requirement at our university back in the United States in which we need to complete a report. Do we have your permission to use any information we receive from you in this report?

1. What would be the liability concerns with opening up a repair café on WPI's campus based on WPI's liability policy?
2. What would and wouldn't be covered by our school's insurance policy?
3. What would be the liability concerns with repair electronic devices? With electronic shock?
4. Would it be advisable to stay away from electronic device repair?
5. How does the current University of Worcester Repair Café Liability Form? Do you have any suggestions?
6. What types of questions should we ask the people dealing with liability over in Worcester, England?

Appendix E: Andrea Marshall

We're working with the University of Worcester on determining the desirability and feasibility of implementing Repair Cafés on university campuses. This project is part of a degree requirement at our university back in the United States in which we need to complete a report. Do we have your permission to use any information we receive from you in this report?

1. What would be the liability concerns with opening up a repair café on the University of Worcester campus based on the university's liability policy.
 - What would and wouldn't be covered by the school's insurance policy.
 - Someone gets hurt during a repair
 - An item gets more damaged than it was before
 - Someone gets hurt after they take their item home because of the repair
2. What would be the liability concerns with repair electronic devices?
 - Shock?
 - Electrocution?
 - Laptop, tablet, phone repair safe?
 - Would it be advisable to stay away from electronic device repair period? Or just high voltage electronic repair (TV's, toasters, etc).
3. Discuss the current Repair Café Liability Form
 - How does it look?
 - Any suggestions?
 - Should we have a liability form for volunteers as well?
4. If someone got hurt during a repair what would be the protocol to follow?
5. Were you contacted about the setup of the repair café? Were any lawyers involved, did you contact insurance?
6. Some concerns our liability staff at WPI had:
 - First thing would be inviting outside specialists on campus
 - Talk to insurance providers, covered under existing liability policy?
 - \$\$

Appendix F: Colin Fry

We're working with the University of Worcester on determining the desirability and feasibility of implementing Repair Cafés on university campuses. This project is part of a degree requirement at our university back in the United States in which we need to complete a report.

Do we have your permission to use any information we receive from you in this report?

1. What must be done on your side in order to host a repair cafe?
2. What is the main concern if something goes wrong?
3. How do we handle the risk assessment?
4. What are the issues with electrical device repair?
5. Are disclaimers worth it?
6. Since a repair café is a student activity, why wouldn't insurance cover it?

Appendix G: Student Survey

Repair Cafe Student Survey

We are a group of students from Worcester Polytechnic Institute, in Worcester, Massachusetts. As you may know, repair cafes are springing up all over Europe. These are free events where people bring in broken items to be repaired. Volunteers work together with patrons to repair their broken items so that they can learn more about repairing in general but also how to repair that specific item if it breaks again. Even if you have no item to be repaired you are still invited in to have a cup of tea or piece of cake and talk with the repair volunteers or aid in someone else's repair. We are gathering information about the desirability and feasibility of implementing a repair café at the University of Worcester.

The survey is entirely anonymous and we will not be collecting any personal identifying information. Your opinions are important to us, but feel free to skip any questions you prefer not to answer. The survey should take less than 3 minutes.

NEXT

1. Of the items on the list below, which have you repaired yourself or have had repaired in the past year? Please tick all that apply.

	Repaired yourself	Have had repaired by someone
Bicycle	<input type="radio"/>	<input type="radio"/>
Clothing	<input type="radio"/>	<input type="radio"/>
Shoes	<input type="radio"/>	<input type="radio"/>
Mobile Phone	<input type="radio"/>	<input type="radio"/>
Computer (Desktop, Laptop)	<input type="radio"/>	<input type="radio"/>
Tablet Computer (Android, iOS, etc)	<input type="radio"/>	<input type="radio"/>
Electrical Appliances (toaster, food mixer)	<input type="radio"/>	<input type="radio"/>
Small Furniture (desk, chair, table, etc.)	<input type="radio"/>	<input type="radio"/>

2. Of the items on the list below, which items have you thrown away in the past year because you could not repair them yourself or find someone to repair them at a reasonable cost? Please tick all that apply.

	Could not repair yourself	Could not find someone to repair
Bicycle	<input type="radio"/>	<input type="radio"/>
Clothing	<input type="radio"/>	<input type="radio"/>
Shoes	<input type="radio"/>	<input type="radio"/>
Mobile Phone	<input type="radio"/>	<input type="radio"/>
Computer (Desktop, Laptop)	<input type="radio"/>	<input type="radio"/>
Tablet Computer (Android, iOS, etc)	<input type="radio"/>	<input type="radio"/>
Electrical Appliances (toaster, food mixer)	<input type="radio"/>	<input type="radio"/>
Small Furniture (desk, chair, table, etc.)	<input type="radio"/>	<input type="radio"/>

3. If a repair cafe was established on the University of Worcester Campus, which of the following items would you be likely to bring for repair for free or small donations?

- ☐ Bicycle
- ☐ Clothing
- ☐ Shoes
- ☐ Mobile Phone
- ☐ Computer
- ☐ Tablet Computer (Android, iOS, etc.)
- ☐ Electrical Appliances (e.g. toaster, food mixer)
- ☐ Small Furniture (desk chair, nightstand, etc.)
- ☐ Other:

4. What old appliances, devices, or items have you recycled in the past year? Please tick all that apply.

- ☐ Clothing
- ☐ Shoes
- ☐ Cellular Phone
- ☐ Computer
- ☐ Tablet Computer (Android, iOS, etc.)
- ☐ Electrical Appliances (e.g. toaster, food mixer)
- ☐ Small Furniture (e.g. desk chair, nightstand, etc.)
- ☐ None
- ☐ Other: _____

5. Before this survey, had you ever heard of a repair cafe before?

- ☐ Yes
- ☐ No

6. Do you have any previous knowledge of repair cafes?

- ☐ Yes
- ☐ No

7. Did you attend the repair cafe during Go Green Week from February 8th to the 12th?

- ☐ Yes
- ☐ No

8. Have you ever been to a repair cafe elsewhere?

- ☐ Yes
- ☐ No

9. If yes to question 8, which repair cafe(s) have you attended?

Your answer

10. If the University hosts a repair cafe on campus, how often should it be held?

- ☐ Annually
- ☐ Bi-annually
- ☐ Monthly
- ☐ Weekly
- ☐ Daily

11. If University of Worcester held a repair café on campus each month, what day and time would be best?

	8:00	10:00	12:00	14:00	16:00	18:00
Monday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wednesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thursday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. How you would prefer to be notified of an upcoming repair café? Tick all that apply.

- ☐ Weekly news
- ☐ Phone call
- ☐ Word of mouth
- ☐ Mailed
- ☐ Social media update
- ☐ Posters and flyers

13. Please indicate how effective the following methods of advertising a repair café might be among students.

	Not effective at all	Marginally effective	Very effective
Weekly news	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phone call	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Word of mouth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mailed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media update	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Posters and flyers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Which campus should the repair cafe be located on?

- ☐ St. John Campus
- ☐ City Centre Campus
- ☐ Other : _____

15. Please indicate any repair skills you possess.

- ☐ Furniture repair
- ☐ Bike repair
- ☐ Sewing
- ☐ Software
- ☐ No skills pertinent to a repair café
- ☐ Other:

16. How did you learn to repair?

- ☐ Self-Taught
- ☐ Formal education
- ☐ Professional training
- ☐ Informal mentorship/apprenticeship (friend or relative)
- ☐ Formal mentorship/apprenticeship (professional)

17. Would you be willing to volunteer at a repair cafe? If no, skip question 18.

- ☐ Yes
- ☐ No

18. Please indicate for which repair stations you would be willing to volunteer at future repair cafes on campus

- ☐ Furniture repair
- ☐ Bike repair
- ☐ Sewing
- ☐ Software
- ☐ Other: _____

19. What is your year of study?

- ☐ First Year
- ☐ Second Year
- ☐ Third Year
- ☐ Other

20. Which Institute are you currently studying with?

- ☐ Institute of Education
- ☐ Institute of Health and Society
- ☐ Institute of Humanities and Creative Arts
- ☐ Institute of Science and the Environment
- ☐ Institute of Sport and Exercise
- ☐ Worcester Business School
- ☐ Other : _____

Thank You

Thank you for taking the time to complete this survey. Your opinions are very valuable to us and this information will be of great use to us in our gathering of information about the desirability and feasibility of implementing a repair café at the University of Worcester. If you would like additional information, feel free to go to the Repair Cafe website at <http://www.repaircafe.org>. A copy of our final report will be available at _____.

BACK

SUBMIT

Appendix H: University Staff Survey

Repair Café Survey for University Staff

We are a group of students from Worcester Polytechnic Institute, in Worcester, Massachusetts. As you may know, repair cafes are springing up all over Europe. These are free events where people bring in broken items to be repaired. Volunteers work together with patrons to repair their broken items so that they can learn more about repairing in general but also how to repair that specific item if it breaks again. Even if you have no item to be repaired you are still invited in to have a cup of tea or piece of cake and talk with the repair volunteers or aid in someone else's repair. We are gathering information about the desirability and feasibility of implementing a repair café at the University of Worcester.

The survey is entirely anonymous and we will not be collecting any personal identifying information. Your opinions are important to us, but feel free to skip any questions you prefer not to answer. The survey should take less than 3 minutes.

NEXT

1. Of the items on the list below, which have you repaired yourself or have had repaired in the past

	Repaired Yourself	Have had repaired
Bicycle	<input type="radio"/>	<input type="radio"/>
Clothing	<input type="radio"/>	<input type="radio"/>
Shoes	<input type="radio"/>	<input type="radio"/>
Mobile Phone	<input type="radio"/>	<input type="radio"/>
Computer (Desktop, Laptop)	<input type="radio"/>	<input type="radio"/>
Tablet Computer (Android, iOS, etc)	<input type="radio"/>	<input type="radio"/>
Electrical Appliances (toaster, food mixer)	<input type="radio"/>	<input type="radio"/>
Small Furniture (desk, chair, table, etc.)	<input type="radio"/>	<input type="radio"/>

2. Of the items on the list below, which items have you thrown away in the past year because you could not repair them yourself or find someone to repair them at a reasonable cost? Please tick all that apply.

	Could not repair yourself	Could not find someone to repair
Bicycle	<input type="radio"/>	<input type="radio"/>
Clothing	<input type="radio"/>	<input type="radio"/>
Shoes	<input type="radio"/>	<input type="radio"/>
Mobile Phone	<input type="radio"/>	<input type="radio"/>
Computer (Desktop, Laptop)	<input type="radio"/>	<input type="radio"/>
Tablet Computer (Android, iOS, etc)	<input type="radio"/>	<input type="radio"/>
Electrical Appliances (toaster, food mixer)	<input type="radio"/>	<input type="radio"/>
Small Furniture (desk, chair, table, etc.)	<input type="radio"/>	<input type="radio"/>

3. If a repair cafe was established on the University of Worcester Campus, which of the following items would you be likely to bring for repair for free or small donations?

- ☐ Bicycle
- ☐ Clothing
- ☐ Shoes
- ☐ Mobile Phone
- ☐ Computer
- ☐ Tablet Computer (Android, iOS, etc.)
- ☐ Electrical Appliances (e.g. toaster, food mixer)
- ☐ Small Furniture (desk chair, nightstand, etc.)
- ☐ Other:

4. What old appliances, devices, or items have you recycled in the past year (please tick all that apply)?

- ☐ Clothing
- ☐ Shoes
- ☐ Mobile Phone
- ☐ Computer (Desktop, Laptop)
- ☐ Tablet (Android, iOS, etc)
- ☐ Electrical Appliances (toaster, food mixer, etc)
- ☐ Small Furniture (desk, chair, table, etc.)
- ☐ None
- ☐ Other: _____

5. Before this survey, had you ever heard of a repair cafe before?

- ☐ Yes
- ☐ No

6. Do you have any previous knowledge of repair cafes?

- ☐ Yes
- ☐ No

7. Did you attend the Repair Café during Go Green Week from February 8th to the 12th?

- ☐ Yes
- ☐ No

8. Have you ever been to a repair café elsewhere?

- ☐ Yes
- ☐ No

9. If yes to question 8, which repair café(s) have you attended?

Your answer

10. If the University hosts a repair café on campus, how often should to be held?

- ☐ Annually
- ☐ Bi-Annually
- ☐ Monthly
- ☐ Weekly
- ☐ Daily

11. If the University hosts a repair café on campus each month, what day and time would be best?

	8:00	10:00	12:00	14:00	16:00	18:00
Monday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tuesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wednesday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thursday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Friday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Saturday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sunday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

◀ ▶

12. How you would prefer to be notified of an upcoming repair café? Tick all that apply.

- ☐ Weekly news
- ☐ Phone call
- ☐ Text message
- ☐ In person
- ☐ Mailed
- ☐ Social media update
- ☐ Flyers and posters
- ☐ Other: _____

13. Please indicate how effective the following methods of advertising a repair café might be among staff.

	Not effective	Marginally effective	Very effective
Weekly News	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phone call	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Text message	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In Person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Media Update	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flyers & Posters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Which campus should the repair café be on?

- ☐ St. John's Campus
- ☐ City Centre Campus
- ☐ Riverside Campus
- ☐ Other : _____

15. Please indicate any repair skills you possess. If possess not skip question 16.

- ☐ Furniture Repair
- ☐ Bike Repair
- ☐ Software
- ☐ Sewing
- ☐ No skills pertinent to a repair café
- ☐ Other:

16. How did you learn how to repair?

- ☐ Self-Taught
- ☐ Formal Education
- ☐ Professional Training
- ☐ Informal Mentorship/Apprenticeship (friend or relative)
- ☐ Formal Mentorship/Apprenticeship (professional)

17. Would you be willing to volunteer at a repair café? If no, skip question 18.

- ☐ Yes
- ☐ No

18. Please indicate for which repair stations you would be willing to volunteer at future repair cafes on campus (please tick all that apply)?

- ☐ Furniture repair
- ☐ Bike Repair
- ☐ Sewing
- ☐ Software
- ☐ Other: _____

19. What is your age?

Your answer _____

20. How long have you been with the University of Worcester?

Your answer _____

21. What is your role/position at The University of Worcester?

- ☐ Academic Staff
- ☐ Administrative and Support Staff
- ☐ Research Associate
- ☐ Technical/Maintenance Staff
- ☐ Other :

Thank You

Thank you for taking the time to complete this survey. Your opinions are very valuable to us and this information will be of great use to us in our gathering of information about the desirability and feasibility of implementing a repair café at the University of Worcester. If you would like additional information, feel free to go to the Repair Cafe website at <http://www.repaircafe.org>. A copy of our final report will be available at _____.

Appendix I: Trial Attendee Survey

1. Please identify as one of the options below:
 - a. Student
 - b. Staff
 - c. Other:
2. Did you bring any item(s) to be repaired? If no, skip questions 3 and 4.
 - a. Yes
 - b. No
3. Could your item(s) be repaired?
 - a. Yes
 - b. No
4. What did you bring?
 - a. Bicycle
 - b. Clothing/Textiles
 - c. Mobile Phone
 - d. Computer (Desktop, Laptop)
 - e. Tablet (Android, iOS, etc)
 - f. Electrical Appliances (toaster, food mixer)
 - g. Small Furniture (desk, chair, table, etc)
 - h. Software
 - i. Other:
5. Would you utilize a repair café as a resource again?
 - a. Yes
 - b. No
6. Would you encourage a friend/family member to attend a repair café? If yes, skip Question 7.
 - a. Yes
 - b. No
7. Why would you not recommend a repair café?
8. How could the repair café be improved in the future?

Appendix J: Risk Assessment



Repair Café risk assessment

Repairing clothes and textiles; using sewing machine and other equipment.

PART A:

Hazards identified:	Repairing clothes and textiles; using sewing machine and other equipment; <ul style="list-style-type: none"> • Injuries caused by needle puncher; • Trailing leads which can be tripped over; • Electric shock; 	Risk Rating (tick) (without controls in place) HIGH MEDIUM LOW
----------------------------	--	--

PART B:

Who is at risk (tick)	Empl yees		Students		Visitors/Public	
	Contr actors		Others (specify)			

PART C:

Control measures required to manage health and safety:	
1.	Make sure that robust needle guards fitted and used
•	Check that lighting is adequate and stays on when the motor is switched off, e.g. for safe threading.
•	Do not operate the sewing machine when tired.
•	Seating allows for good posture and ease of movement
•	Electrical wiring is supplied from overhead or otherwise to avoid cables on floors

.	A safe system of work includes removing feet from treadle when threading and changing needles
.	Power should be switched off when carrying out adjustments and needle changing
.	Check operator is competent at operating the machine
.	
0.	

PART D:

Risk rating with controls in place (tick):	Are any control measures in Part C not implemented? (tick):	If yes, state below:	Actioned by:
HIGH	YES		
MEDIUM			
LOW	NO		

PART E:

Frequency of review (tick):	6 Months:	12 Months:	24 Months:
Signature of assessor:			

Repairing items using glue and glue guns

Glues used;

UHU All-purpose adhesive – highly flammable

UHU Porcelain – highly flammable

UHU Plastics – highly flammable & irritant

UHU Wood

Glu & Flix – Highly flammable, irritant & dangerous for the environment

Loctite Hot melt glue gun stick

PART A:

Hazards identified:	Repairing items using glue and glue guns: <ul style="list-style-type: none"> • Splashes of glue which can cause skin irritation • Eye injuries • Electric shock • Trailing leads which can be tripped over • Hot glue nozzle tips, which can cause burns 	Risk Rating (tick) (without controls in place) HIGH MEDIUM LOW
----------------------------	---	--

PART B:

Who is at risk (tick)	Emplo yees		Students		Visitors/Public	
	Contr actors		Others (specify)			

PART C:

Control measures required to manage health and safety:	
1.	The plug, cable and batik pot of glue gun should be visually inspected before use
.	The leads should be located so that it is not a tripping hazard and is not likely to become entangled with the operator or other nearby leads
.	Loose clothing must be secured and long hair tied back
.	Suitable eye protection should be worn
.	Gloves should be worn when handling glue
.	

.	
.	
.	
0.	

PART D:

Risk rating with controls in place (tick):	Are any control measures in Part C not implemented? (tick):	If yes, state below:	Actioned by:
HIGH	YES		
MEDIUM			
LOW	NO		

PART E:

Frequency of review (tick):	6 Months:		12 Months:		24 Months:	
Signature of assessor:						

Appendix K: Repair Café Flyer



REPAIR CAFE

WHEN

20TH OF APRIL, 12-2PM

WHERE

PEAR TREE IN STUDENTS' UNION



**HAVE TORN CLOTHES? A BROKEN BIKE?
BROKEN FURNITURE? SOFTWARE
MALFUNCTION? NEED SOMETHING GLUED?
COME LEARN AND GET IT FIXED FOR FREE.**

**CONTACT US AT
REPAIRCAFE-16W1@WPI.EDU**

Appendix L: Sponsor Description

The University of Worcester was established in 1946 as the Worcester Emergency Teacher Training College by the University of Birmingham to meet the demand for teachers after World War II (People & Planet University League, 2015). The University achieved university status in 2005 and has grown tremendously in recent years. Enrollment and income doubled between 2006 and 2012 and the university now has 10,000 students and 1,000 staff on two campuses (University of Worcester, 2013).

Hand-in-hand with this rapid growth, the University of Worcester has striven to embody and promote environmental sustainability throughout its curriculum, day-to-day operations, building programs, and all aspects of student life (Higher Education Academy, 2012). In 2007, the University adopted a strategic plan “to prevent pollution and mitigate the University’s significant environmental impact” (University of Worcester, n.d.b). The University also adopted its 10 Golden Rules for living sustainably in their student dorms. The University has received many accolades and awards for these efforts. For example, in 2015, the University was ranked 2nd out of 151 UK universities in the People and Planet University League. The university received perfect scores in Environmental Policy, Environmental Staff, Auditing & EMS, Engagement, Education, and Key Impacts (Figure C) (People & Planet University League, 2015).

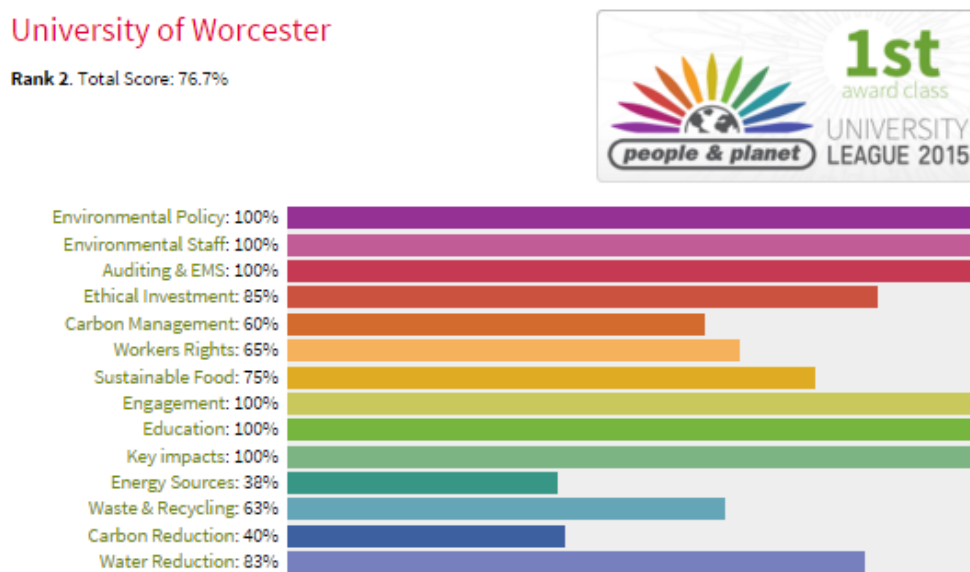


Figure 25: University of Worcester League Table

In terms of the curriculum, the University developed an ongoing program called The Green Academy, with the goal to “deliver sustainability to all students” (Higher Education Academy, 2012). The Green Academy consists of a thirty-credit elective course, in which all the classes are related to sustainability (Higher Education Academy, 2012). These course includes classes on different aspects of sustainability, work-based learning projects, and capstone projects. In 2012, the University revised its strategic plan to incorporate greater emphasis on the environment and sustainability in the curriculum, based on feedback received from current and prospective students. One survey found that “86% of those interviewed considered that an opportunity to study in sustainability would help their future employment and personal development” and that “64% of parents and prospective students wanted some options in sustainability” (Higher Education Academy, 2012).

The University also emphasizes sustainability in its building projects (University of Worcester, n.d.a). For example, the University of Worcester and Worcestershire County Council collaborated to build a joint public and university library called the Hive that incorporates numerous energy saving and environmentally friendly features, such as passive heating and cooling and “eco-friendly ventilation system,” which uses water from the River Severn (University of Worcester, 2012). In 2012 the Hive won recognition for the ‘Best Sustainability in a Project’ at the Partnership Awards (University of Worcester, 2012). As a public and university resource, the Hive’s award-winning innovative design promotes the ideas of collaboration and sustainability not only across the University, but also across the Worcestershire County.

The University of Worcester also encourages students to actively participate in environmentally friendly and sustainable practices. In 2008, the University worked closely with the City Council to create a scheme “in designing awareness raising stickers and organized joint visits to all student flats to explain exactly what and how to recycle,” resulting in more than a 120% increase in student hall recycling (University of Worcester, 2009). In 2009, The University of Worcester was awarded



Figure 26: Map of all UK repair cafés ("Visit a Repair Café, n.d.)

the Green Apple Awards for Environmental Best Practice for their successful efforts in improving recycling rates and engaging with students (University of Worcester, 2009). The University was invited to join an elite group of environmentalists and “will continue to work together to find ways to increase recycling still further in the future” (University of Worcester, 2009).

Building on its continuing efforts to promote sustainability, the University is exploring the idea of establishing a repair café on its campus. Founded in 2007 in Amsterdam by Martine Postma, the Repair Café Foundation has grown to 1035 locations across the globe with 23 dispersed across the UK, mostly in southern England (Figure D) (“Visit a Repair Café”, n.d.). In 2015, a team of students from WPI, evaluated the Great Malvern Repair Café, the first and only café local to Worcester, UK (Lindsay, Mattson, and Smith 2015). Based on survey results, the team recommended that the university should establish a café in the area of St. John’s campus. The goal of the Repair Café II project is to take the recommendation of Repair Café I and evaluate the feasibility and desirability of hosting recurring repair café sessions on the University of Worcester and University of Gloucester campuses.